

# The Employment Relationship and Innovative Work Behaviour

**Stan DE SPIEGELAERE**

Proefschrift aangeboden tot het verkrijgen van de  
graad van Doctor in de Sociale Wetenschappen

Promotor: Prof. dr. Geert Van Hootegeem

Onderzoekseenheid: Centrum voor Sociologisch Onderzoek

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Samenstelling van de examencommissie:

Prof. dr. Rudi Laermans (voorzitter)

Prof. dr. Geert Van Hootehem (promotor)

Prof. dr. Annie Hondeghem

Prof. dr. Bart Meuleman

Prof. dr. Jan Looise Kees [Universiteit van Twente, NL]

Prof. dr. Kea Tijdens [Erasmus Universiteit Rotterdam, Universiteit Amsterdam, NL]

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# Table of Contents

|   |    |
|---|----|
| List of Figures .....   | 7  |
| List of Tables .....  | 8  |
| Dankwoord .....   | 9  |
| Introduction.....   | 11 |
| References .....  | 13 |
| Chapter 1 Conceptual framework .....  | 15 |
| 1. The employment relationship .....  | 15 |
| 2. Innovative work behaviour .....  | 18 |
| 3. Employment relationships & IWB: state of the literature .....  | 21 |
| 4. The pieces of the puzzle: PhD overview .....   | 29 |
| 5. References .....   | 32 |
| Chapter 2 Method .....  | 39 |
| 1. Survey population .....  | 39 |
| 2. Sample .....   | 41 |
| 3. Survey design – Data quality .....   | 42 |
| 4. Survey issues .....  | 43 |
| 5. References .....   | 44 |
| Chapter 3 The innovative work behaviour concept: definition and orientation .....                                       | 47 |
| 1. Introduction .....   | 48 |
| 2. Innovative work behaviour: definition .....  | 48 |
| 3. Innovation and innovative work behaviour .....   | 49 |
| 4. Alternative definitions of IWB .....   | 51 |
| 5. Towards a new definition IWB .....   | 52 |
| 6. Extra-role vs. intra-role and large vs. small innovations .....  | 53 |
| 7. Old wine in new bottles? .....   | 54 |
| 8. Discussion .....   | 60 |
| 9. Conclusion .....   | 61 |
| 10. References .....  | 62 |
| Chapter 4 Mainstreaming innovation in Europe: Findings on employee innovation and workplace learning from Belgium ..... | 67 |

|  |     |
|--|-----|
| 1. Introduction .....  | 68  |
| 2. Literature .....  | 69  |
| 3. Data & method.....  | 71  |
| 4. Results .....   | 73  |
| 5. The importance of workplace learning for EDI .....  | 78  |
| 6. Conclusion .....  | 80  |
| 7. References.....   | 81  |
| Chapter 5 Labour flexibility and innovation, complementary or concurrent strategies? A review of the literature .....                      |     |
|  | 83  |
| Introduction .....   | 84  |
| Review methodology.....  | 85  |
| Labour flexibility, (employee-driven) innovation and competitiveness.....  | 86  |
| Limitations.....   | 92  |
| Conclusion and discussion .....  | 93  |
| References .....   | 94  |
| Author biographies.....  | 97  |
| Chapter 6 Innovative work behaviour and performance-related pay: Rewarding individually or collectively? .....                             |     |
|  | 99  |
| 1. Introduction .....  | 100 |
| 2. Literature .....  | 101 |
| 3. Method.....   | 107 |
| 4. Results .....   | 109 |
| 5. Discussion .....  | 112 |
| 6. Conclusion .....  | 113 |
| 7. References.....   | 114 |
| Chapter 7 On the relation between job insecurity, job autonomy, innovative work behaviour and the mediating effect of work engagement..... |     |
|  | 121 |
| 1. Introduction .....  | 122 |
| 2. Literature .....  | 123 |
| 3. Method.....   | 128 |
| 4. Results .....   | 132 |
| 5. Discussion .....  | 136 |
| 6. Implications.....   | 137 |
| 7. Limitations .....   | 137 |
| 8. Conclusion .....  | 138 |
| 9. References.....   | 138 |

|   |     |
|---|-----|
| Chapter 8 Different dimensions of job autonomy and their relation to work engagement & innovative work behaviour: The more the merrier? ..... | 147 |
| 1. Introduction .....   | 148 |
| 2. Job autonomy.....  | 149 |
| 3. Work engagement & innovative work behaviour.....   | 151 |
| 4. The impact of job autonomy on work engagement and IWB.....   | 152 |
| 5. Method.....  | 156 |
| 6. Results .....  | 159 |
| 7. Discussion .....   | 161 |
| 8. Conclusion .....   | 163 |
| 9. References.....  | 164 |
| Chapter 9 Conclusion .....  | 171 |
| 1. Main findings .....  | 171 |
| 2. Theoretical implications.....  | 174 |
| 3. Practical and policy considerations .....  | 180 |
| 4. Concluding remarks .....   | 182 |
| 5. References.....  | 182 |
| ANNEX 1 Innovatief werkgedrag als concept: definiëring en oriëntering .....   | 187 |
| 1. Inleiding .....  | 187 |
| 2. Innovatief werkgedrag: definiëring .....   | 188 |
| 3. Innovatie en innovatief werkgedrag.....  | 189 |
| 4. Alternatieve definities van IWG.....   | 191 |
| 5. Naar een nieuwe IWG definitie .....  | 192 |
| 6. Extra vs. intra-rol en grote vs. kleine innovaties.....  | 193 |
| 7. Oude wijn in nieuwe zakken? .....  | 195 |
| 8. Discussie .....  | 201 |
| 9. Conclusie .....  | 202 |
| 10. Literatuur.....   | 203 |
| ANNEX 2 VIGOR Survey .....  | 209 |
| 1. Pilot study .....  | 209 |
| 2. Survey procedures.....   | 210 |
| 3. Survey issues.....   | 211 |
| 4. Non-response analysis.....   | 212 |
| 5. Representativeness of the sample .....   | 216 |
| 6. References.....  | 217 |

|                                   |     |
|-----------------------------------|-----|
| ANNEX 3 VIGOR Questionnaire ..... | 219 |
| ANNEX 4 Publications .....        | 251 |
| English summary .....             | 255 |
| Nederlandse samenvatting .....    | 256 |
| Résumé français .....             | 257 |

## List of Figures

### Chapter 1

|          |  |    |
|----------|--|----|
| Figure 1 | Innovative work behaviour vs. employee-driven innovation ..... | 21 |
| Figure 2 | HPWS literature .....  | 23 |
| Figure 3 | Direct and indirect effects .....                              | 25 |
| Figure 4 | Dissertation chapters' overview .....                          | 32 |

### Chapter 3

|          |                     |    |
|----------|---------------------|----|
| Figure 1 | IWB dimensions..... | 51 |
|----------|---------------------|----|

### Chapter 4

|          |   |    |
|----------|---|----|
| Figure 1 | Different types of EDI.....               | 71 |
| Figure 2 | Sectoral employee innovation regimes..... | 75 |

### Chapter 6

|          |                            |     |
|----------|----------------------------|-----|
| Figure 1 | Hypotheses and model ..... | 107 |
| Figure 2 | Interaction 1 .....        | 111 |
| Figure 3 | Interaction 2 .....        | 111 |

### Chapter 7

|          |                      |     |
|----------|----------------------|-----|
| Figure 1 | Predicted model..... | 128 |
| Figure 2 | Final model .....    | 135 |

### Chapter 8

|          |                   |     |
|----------|-------------------|-----|
| Figure 1 | Model .....       | 156 |
| Figure 2 | Final model ..... | 161 |

### Chapter 9

|          |  |     |
|----------|--|-----|
| Figure 1 | Alternative categorisations on the employment relationship ..... | 176 |
|----------|--|-----|

### Annex 1

|          |                        |     |
|----------|------------------------|-----|
| Figuur 1 | Dimensies van IWG..... | 191 |
|----------|------------------------|-----|

# List of Tables

## Chapter 1

|         |                  |    |
|---------|------------------|----|
| Table 1 | Literature ..... | 29 |
|---------|------------------|----|

## Chapter 2

|         |                      |    |
|---------|----------------------|----|
| Table 1 | Planned sample ..... | 42 |
|---------|----------------------|----|

## Chapter 3

|         |                       |    |
|---------|-----------------------|----|
| Table 1 | IWB definitions ..... | 49 |
|---------|-----------------------|----|

|         |                              |    |
|---------|------------------------------|----|
| Table 2 | IWB and other concepts ..... | 59 |
|---------|------------------------------|----|

## Chapter 4

|         |                              |    |
|---------|------------------------------|----|
| Table 1 | Response level - Sample..... | 73 |
|---------|------------------------------|----|

|         |                                |    |
|---------|--------------------------------|----|
| Table 2 | Innovation mainstreaming ..... | 74 |
|---------|--------------------------------|----|

|         |   |    |
|---------|---|----|
| Table 3 | Employee involvement in innovation, in %..... | 76 |
|---------|---|----|

|         |  |    |
|---------|--|----|
| Table 4 | Types of employee-driven innovation by sector, in %..... | 77 |
|---------|--|----|

|         |  |    |
|---------|--|----|
| Table 5 | Types of employee-driven innovation by occupational group, in %..... | 77 |
|---------|--|----|

|         |                                    |    |
|---------|------------------------------------|----|
| Table 6 | Learning & IWB – Correlations..... | 79 |
|---------|------------------------------------|----|

|         |                                    |    |
|---------|------------------------------------|----|
| Table 7 | Difference in IWB - Training ..... | 79 |
|---------|------------------------------------|----|

## Chapter 5

|         |  |    |
|---------|--|----|
| Table 1 | A summary of the three types of labour flexibility ..... | 87 |
|---------|--|----|

## Chapter 6

|         |                    |     |
|---------|--------------------|-----|
| Table 1 | Correlations ..... | 109 |
|---------|--------------------|-----|

|         |                          |     |
|---------|--------------------------|-----|
| Table 2 | Regression results ..... | 110 |
|---------|--------------------------|-----|

## Chapter 7

|         |  |     |
|---------|--|-----|
| Table 1 | Correlations, means, standard deviations & Cronbach alphas ..... | 132 |
|---------|--|-----|

|         |                                     |     |
|---------|-------------------------------------|-----|
| Table 2 | SEM results, model comparison ..... | 133 |
|---------|-------------------------------------|-----|

|         |                                     |     |
|---------|-------------------------------------|-----|
| Table 3 | Direct and indirect relations ..... | 134 |
|---------|-------------------------------------|-----|

## Chapter 8

|         |                    |     |
|---------|--------------------|-----|
| Table 1 | Correlations ..... | 159 |
|---------|--------------------|-----|

|         |                   |     |
|---------|-------------------|-----|
| Table 2 | ANOVA, means..... | 160 |
|---------|-------------------|-----|

## Chapter 9

|         |   |     |
|---------|---|-----|
| Table 1 | Main findings – Flexible employment relationships ..... | 174 |
|---------|---|-----|

## Annex 1

|         |                     |     |
|---------|---------------------|-----|
| Tabel 1 | IWG definities..... | 189 |
|---------|---------------------|-----|

|         |                                   |     |
|---------|-----------------------------------|-----|
| Tabel 2 | IWG en aanleunende concepten..... | 200 |
|---------|-----------------------------------|-----|

## Annex 2

|         |                    |     |
|---------|--------------------|-----|
| Table 1 | Non response ..... | 213 |
|---------|--------------------|-----|

|         |                                |     |
|---------|--------------------------------|-----|
| Table 2 | Reasons for non-response ..... | 214 |
|---------|--------------------------------|-----|

|         |                            |     |
|---------|----------------------------|-----|
| Table 3 | Non-response analysis..... | 215 |
|---------|----------------------------|-----|

|         |                          |     |
|---------|--------------------------|-----|
| Table 4 | Representativeness ..... | 217 |
|---------|--------------------------|-----|

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## Introduction

In recent years, the literature on the topic of innovation has boomed. When companies (and countries) seek to assure their competitive position, they should focus their attention on, among other things, producing new and better products. Similarly, the academic literature on the topics of innovation and creativity has developed strongly in recent times. Extensive scientific literature streams are built around concepts such as open innovation (Chesbrough, 2003), organisational innovation (Damanpour, 1991) or more recently, workplace innovation (Pot, 2012).

Parallel to this, a debate developed on the relation between flexible employment relationships and competitiveness. According to the neo-classical economic view, stringent regulation of the labour market endangers the competitiveness of firms and national economies (Kleinknecht, 1998). European business is, in this view, hampered by excessive regulation of the labour market when globalisation and technological (r)evolutions put companies in an increasingly competitive environment (Gryp, 2010). Flexible employment relationships would enable them to flexibly change the number of employees, alter their pay or working hours, all in line with changing market demands (Sels & Hootegem, 2001).

How a focus on innovation relates to a focus on flexible employment relationships is only rarely the subject of thorough studies. Whether a strategy focused on flexible employment relationships has a positive, a negative or no effect at all on the innovation priority remains an open question. On the organisational level, a debate on this question is animated by the research findings of Kleinknecht and his colleagues who argue that flexible employment relationships have a negative impact on innovation in firms and nations. Flexible employment relationships would undermine the long term competitive advantage, instead of fostering it (see: Kleinknecht, Naastepad, Storm, & Vergeer, 2013; Kleinknecht, Schaik, & Zhou, 2014; Kleinknecht, 1998; Storm & Naastepad, 2007).

On the individual employee level, however, the research on the relation between flexible employment relationships and innovation is less developed. Literature on High-Performance Work Systems (Boxall, 2012) or employment relationships (Boxall, 2013; Martínez-Sánchez, Vela-Jiménez, Pérez-Pérez, & de-Luis-Carnicer, 2011) rarely focuses on individual employee behaviour. Conversely, literature on employee creativity (Amabile, 1988), Innovative Work

Behaviour (Scott & Bruce, 1994) or Employee-Driven Innovation (Høyrup, Bonnafous-Boucher, Hasse, Lotz, & Møller, 2012) barely focus on the effect of the employment relationship.

On the policy level on the other hand, employee innovation and labour flexibility are seen as being mutually reinforcing. Flexible employment relationships would provide incentives to employees to give their best effort at work (Schwab & Brende, 2013). In a Green Paper of the European Commission (2006), this line of thought is delineated as follows:

*‘European labour markets need to be both more inclusive and more responsive to innovation and change. (...) Legal frameworks sustaining the standard employment relationship may not offer sufficient scope or incentive to those on regular permanent contract to explore greater opportunities for greater flexibility at work.’*

According to this line of thought, employees need to be given sufficient incentives to search for better ways to perform the work and show greater flexibility in the performance of their job. Standard, so-called rigid employment relationships would not provide these incentives.

The question on the relationship between employment relationships and innovative employee outcomes is pressing, both from an academic and from a policy point of view. This dissertation deals with precisely this relationship on the individual employee level.

This dissertation is publication based, which means it presents a collection of several independent articles published or in the process of publication in international scientific journals. Before the individual articles are presented, Chapters 1 and 2 will discuss the theoretical framework and the data used in the other chapters. Chapters 3-8 present six research articles and Chapter 9 provides an overall conclusion of the research findings.

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# Chapter 1 Conceptual framework

In this first chapter, we define and discuss the two main concepts of this dissertation: the employment relationship and Innovative Work Behaviour. We further position the dissertation in the appropriate literature streams on high-performance work systems, employee creativity and job design models. Finally, we give an overview of the dissertation's chapters.

## 1. The employment relationship

The main independent variables in this doctoral dissertation refer to the employment relationship. We define the concept and introduce the 'flexibility' debate on the employment relationship by sketching some recent evolutions in the EU and Belgium.

### 1.1 Definition

The concept of the *employment relationship* refers to the link between the organisation and the individual employee. The employment relationship has as objective the stabilising, direction and regulation of the employee behaviour (Van Hootegem, 2000, p. 61). It can be defined as the '*legal creation in which one person (the employee) agrees for a sum of money specified over some time period to provide labour to another person (the employer) and follow the employer's orders and rules regarding the performance of work, at least within limits*' (Simon, 1951 in: Kaufman 2004, 51). In the employment relationship, three aspects are central: (1) job security, (2) financial reward and (3) working time (Sparrow & Cooper, 2002; Van Hootegem, 2000).

**Job security** refers to the degree in which the job of a specific employee is stable over time. Depending on the position in the organisation, on the organisational culture, on the regulatory environment and on many other factors, some jobs are more secure than others. One way of looking at job security is by referring to the type of contract of the employee. Traditionally, open-ended contracts are seen as the most stable and secure. Fixed-term contracts, agency work contracts and all other types of non-standard contracts are seen as being more flexible, as both the employer and employee can decide not to renew the contract when it expires without any severance pay (Reilly, 2001). There is nevertheless no one-to-one relation between the contract type and the degree of job stability or job security (De Witte & Näswall,

2003; Klandermans, Hesselink, & van Vuuren, 2010). Fixed-term contracts are frequently used as a step in the selection procedure of employees and while the contract is non-standard, the employee can (rightfully or not) be very confident about his future employment in the company. Employees on a permanent contract in firms that are in full crisis, on the other hand, can endure a significant degree of job insecurity, notwithstanding their so-called 'stable' contract. As a consequence, a whole stream of literature focuses on the *perceived level of job insecurity*, rather than on the type of contract (Sverke, Hellgren, & Näswall, 2002). In this dissertation, we will use the perceived level of job insecurity as our main variable in referring to the job security aspect of the employment relationship.

**Financial reward** refers to the financial compensation an employee receives for his work effort. This financial reward can be low or high and can be linked, or not linked, to several performance indicators. The most traditional form of financial reward is the base salary linked to only one performance indicator: the number of hours worked (Armstrong & Murlis, 2004). As the work hours are generally fixed on a monthly or weekly basis, this form of financial reward is what we call 'fixed pay'. Often companies provide a form of fixed pay in combination with a more flexible kind of pay. The flexible part of the financial rewards is then linked to certain competence or performance indicators. This kind of financial rewards are called Performance-Related Pay (PRP). Distinction is made here between different PRP systems. Individual PRP refers to flexible pay that depends on individual performance indicators. These indicators can be objective, but also subjective based on, for example, yearly employee evaluations. In collective PRP, the indicators are situated at the collective level: group performance, company performance or others.

**Working time** refers to the time during which the employee needs to perform his or her tasks. The most traditional way of organisation in this respect is the typical *nine-to-five* job. Here, employees perform their work during the same hours every day of the week. Depending on the national institutions, organisations and their employees can diverge from these typical working times in many ways. They can work more or less, on non-traditional days (weekend), on non-traditional hours (night, evening), in a shift rotation or on completely un-predictable hours. Recently, companies experiment with giving employees more freedom with regards to working hours. These so-called flexi-time arrangements allow employees to individually select their start and stop times between certain limits. In other cases, they are even completely free to decide when they perform their work tasks (Eldridge & Nisar, 2011). In the context of this dissertation, the focus will be on flexi-time as a variable referring to the working time aspect of the employment relationship.

## 1.2 Debate and recent evolution

The regulation of the employment relationship has been a matter of fierce debate for decades. This debate focuses on whether or not it is characterised by flexibility. What is popularly called the 'standard employment relationship' in the industrialised world is an employment relationship marked by a high degree of inflexibility. Job security is high, wages are relatively high and collectively negotiated; and working hours are predetermined and predictable. This standard employment relationship is also termed a 'Fordist' employment relationship.

This so-called *rigid* type of employment relationship was developed in the Fordist (or Taylorist) era. In this era of industrialisation and development of mass consumption, large companies sought to maximise work productivity in order to reduce costs and make (standardised) goods accessible for mass consumption. The Taylorist idea of scientific management dissected the work tasks in small (and easy) tasks organised in a complex production chain (Van Hootegem, 2000). To implement this so-called 'one best way' of production, employees were put under strict control (Collins, 2001; Lipietz, 1997). To compensate for these higher demands, strict supervision and predefined job content, the Fordist employment relationship guaranteed job security, high wages and a central role for the labour union in negotiating employment conditions (Rubery & Grimshaw, 2003, pp. 50–76; Van Hootegem, 2000, pp. 325–327).

With the oil crises of the 70's, this Fordist employment relationship came under attack. In the aftermath of the oil crises, the discussion on the fundamental causes of the crises was refocused towards labour market issues (Treu, 1992). It was (and still is) put forward that the so-called rigid Fordist employment relationship disables companies from flexibly adapting to changing market environment and hampers growth and innovation. OECD economists referred to what they called *euro-sclerosis*: a defunct labour market functioning because of excessive regulation, resulting in low employment creation (Goudswaard, 2003). The labour costs were increasingly seen as something that ought to be more flexible, costs that could easily be contained in times of economic turmoil. Flexible employment relationships would give organisations the ability to swiftly change the input of labour depending on changing market demands (Van Hootegem, 1991). A similar refocus of the discussion can currently be observed in the aftermath of the 2008 financial crises. An argument has now also developed that identifies the rigid employment relationships as a structural problem of the European economies.

Although the 'standard employment relationship' has been under attack for some years now, and notwithstanding the legislative initiatives taken in the various European countries, the rise of non-standard employment relationships is limited. On some points, clear evolutions are

manifest, but the standard employment relationship remains the dominant type of employment relationship in most countries.

Regarding job security, an evolution towards an increased use of non-standard contracts (fixed-term, agency work) is observed in almost all European countries and reaches an overall level of 15% on average in 2010 (Eurofound, 2010). Notwithstanding the large differences between countries, the open ended contract is still the reference. Job insecurity is nevertheless on the rise. Partly due to the crisis, almost all European countries note an increase in job insecurity between 2005 and 2010 (Parent-Thirion et al., 2012). In Belgium also, the feeling of job insecurity rose from 9.1% to 16.3%. Regarding flexible pay, we see a modest evolution towards a more frequent use of performance related forms of pay. In 2010, one in five Belgian companies with more than 10 employees had a system of individual PRP for their employees, while about 17% had a collective PRP system. The most recent 2013 wave showed that currently about 40% of the companies have a system of individual PRP, while the proportion of companies with collective PRP remained stable (Eurofound, 2010). Regarding flexi-time, a similar modest evolution towards an increased use is observed. Although the great majority of employees still work under fixed working hours schemes, flexi-time is on the rise in Belgium and other EU countries (Eurofound, 2012).

## **2. Innovative work behaviour**

The main dependent variable in this dissertation is Innovative Work Behaviour (IWB). In this section, we define this concept<sup>1</sup> and indicate its significance for research and practice. We further discuss the relationship between IWB and Employee-Driven Innovation (EDI) as this last concept is also used in one of the research chapters.<sup>2</sup>

### **2.1 Definition and significance**

Innovative Work Behaviour (IWB) refers to all behaviour of employees that is related to finding, developing, proposing and implementing innovative ideas in the workplace. We define IWB as:

*'Innovative work behaviour, is all employee behaviour aimed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products*

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<sup>1</sup> The definition of Innovative Work Behaviour, its conceptualisation and its relation to other concepts is treated in detail in Chapter 3.

<sup>2</sup> See Chapter 4.



*or procedures, new and intended to benefit the relevant unit of adoption' (De Spiegelaere, Van Gyes, & Van Hootegeem, 2014)*

In the IWB concept, different sub-dimensions are identified. These sub-dimensions refer to the different phases of the innovation process based on the conceptualisation of Kanter (1988). Researchers distinguish between two (idea generation and idea implementation), three (idea generation, idea championing and idea implementation) or four sub-dimensions: idea generation, idea development, idea championing and idea implementation (de Jong & Den Hartog, 2010; Dorenbosch, van Engen, & Verhagen, 2005; Knol & Van Linge, 2009). It is important to note that these sub-dimensions should not be conceived as temporal, consecutive stages. All innovation researchers stress that innovative behaviour (as with innovation) is marked by discontinuity and iterativeness (Scott & Bruce, 1994; Tuominen & Toivonen, 2011).

Innovative Work Behaviour is a significant factor for business performance. Various studies have shown that employees are not only unique partners in the innovation process, but that their innovative ideas can result in sustainable competitive advantage for organisation. Employees have an important, yet frequently tacit (Polanyi, 1966) knowledge of the production process, which enables them to identify problems and assess solutions swiftly (Appelbaum, Bailey, Berg, & Kalleberg, 2000). Further, the innovative ideas of employees are relatively cheap (if not free) and are frequently context dependent and therefore not easily copied by competitors (Robinson & Schroeder, 2004).

The innovations proposed and developed by employees are mostly small, shopfloor related, or even job task-oriented changes in the process. Yet famous examples also exist of employee innovations that have a larger, more fundamental impact on the organisation. In the Starbucks of Los Angeles, an employee experimented with cold coffee in order to increase sales in summer. This experiment resulted in the Frappuccino, which is currently an important part of the Starbucks service and accounts for a considerable amount of profit (Schultz & Yang, 1997). A recent study of Dul and Ceylan (2014) additionally showed that companies with a creativity supporting culture indeed introduce more innovative products, and are more successful in doing so.

Employers also acknowledge the importance of employees as a primary source of innovative ideas. In a survey of 2008, about 35% of the Flemish employers from small and middle sized companies stated that they frequently use their staff as a source of innovation (UNIZO, 2008). In the Community Innovation Survey we see that over 50% of the innovative companies in Europe refer to sources within the enterprise as crucial for the innovation process. This category (in which employee ideas are included) is considered essential by the largest proportion of companies and easily outperforms the suppliers, clients, customers or competitors.

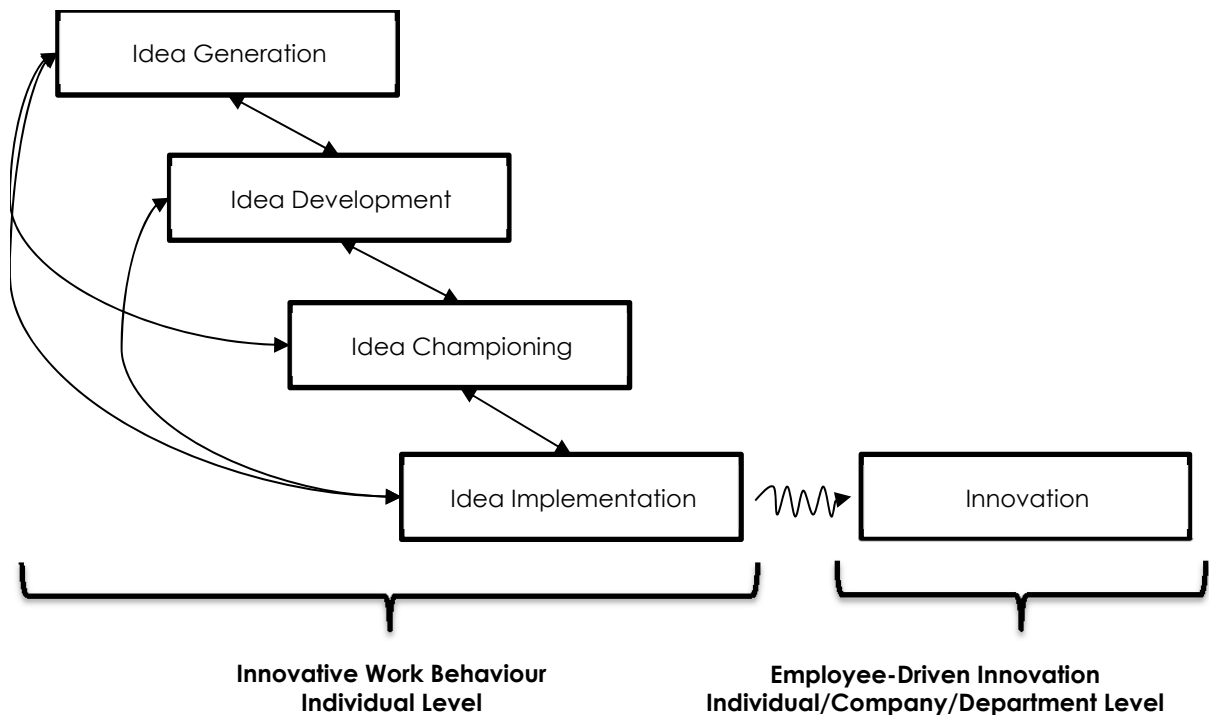
## 2.2 Innovative behaviour vs. employee-driven innovation

Innovative work behaviour is in essence a behavioural variable. It focuses on employees generating ideas, developing those ideas, proposing them for implementation and taking initiatives for the actual application of the innovation in the workplace. IWB is consequently not linked to an actual innovative output at the organisational level. An employee may be very innovative in his or her behaviour while not actually succeeding in implementing a single idea. Obstacles can be the applicability and esteemed usefulness of the idea by the colleagues, resistance of supervisors, lack of resources and others.

A concept that does look at the innovative outcome of employee initiatives from an organisational perspective is 'Employee-Driven Innovation' (EDI). Employee-Driven Innovation focuses on innovations that are implemented thanks to the initiative and involvement of employees in the process. As will be developed in Chapter 4, the role of the employees can range from taking the initiative for developing the innovation to only assisting in the successful implementation of the innovation. One can see EDI as an outcome of a successful series of IWBs.

The use of IWB as a dependent variable instead of EDI has a number of advantages and disadvantages. As IWB is not result dependent, investments of employees in innovations can be discerned and measured, independent of whether or not they are successful, and independent of whether or not they are completed, ongoing or not even in the start-up phase. Additionally, a great portion of the employee innovations are small, incremental changes limited to the workplace and work tasks of the employee. Frequently, such innovations are never formalised or even noticed by the supervisor. Using an EDI approach, such small scale innovations would remain unnoticed by the researcher. The major disadvantage of using IWB is that the link to the organisational performance and innovativeness is more distant.

In Figure 1 we depict the difference between Innovative Work Behaviour on the one hand and Employee-Driven Innovation on the other. As developed earlier, in IWB four sub-dimensions can be distinguished. These dimensions are not consecutive. Innovative behaviour is iterative and multiple fall-backs are conceivable. The output from a lengthy process of innovative behaviours of employees may be an innovation. This innovation can be large or small, radical or incremental and may concern a product, process or organisational change. The outcome, the innovation, is what we call an Employee-Driven Innovation. From this figure, the difference between IWB and EDI is evident. Where IWB refers to individual behaviour of employees, EDI refers to the outcome of that behaviour. Where the first is to be measured on the individual level, the second can be assessed on a higher level (e.g. team, department, organisation, sector, nation, etc.).



**Figure 1** Innovative work behaviour vs. employee-driven innovation

### 3. Employment relationships & IWB: state of the literature

The relation between the employment relationship and the individual innovative outcome of employees has only rarely been part of a thorough research agenda. As a consequence, there are no conceptual and theoretical frameworks that cover all the aspects involved in our research focus. In this dissertation, we therefore draw on the insights of three main research streams: the High-Performance Work Systems literature, the employee creativity literature and the literature on job design models. All help in the theoretical framing of the research and in the development of concrete hypotheses.

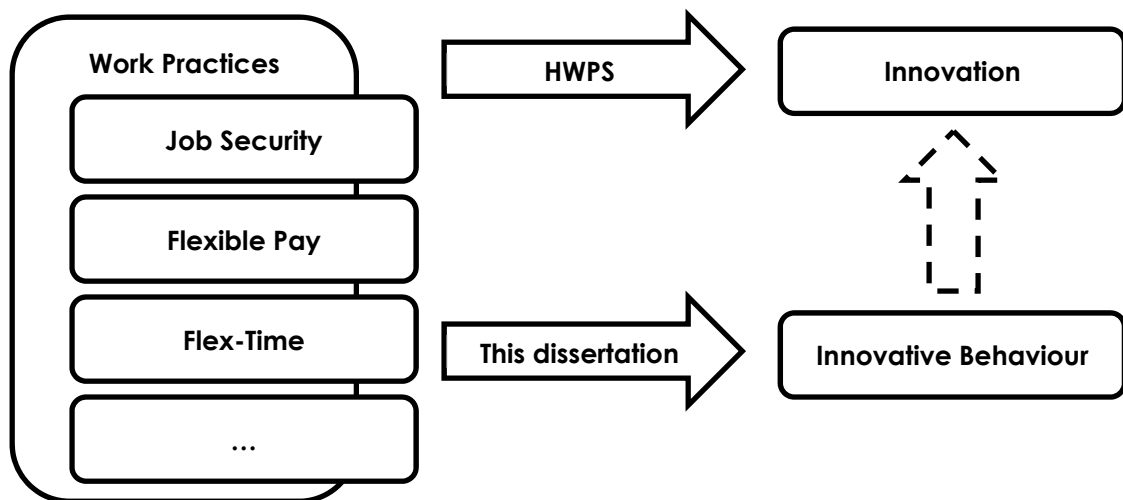
#### 3.1 Flexibility and innovation: High-performance work systems literature

The literature stream focusing extensively on the relation between the employment relationship and innovation is the High-Performance Work Systems (HPWS) literature. According to Boxall and Macky (2009) the High-Performance Work System literature is founded on the central claim that *'there exists a system of work practices that leads in some way to superior organisational performance'*. This literature thus focuses on discovering which set of human resource practices are effective in increasing overall performance. The underlying assumption of this research is that the superior organisational performance is caused by changed behavioural patterns of employees.

In this literature stream, aspects of job security, times of work practices, financial reward and job design are at the centre of attention. Authors frequently use a terminology referring to different types of 'labour flexibility' (Gryp, 2010; Reilly, 2001; Rubery & Grimshaw, 2003): functional, numerical, financial and temporal. Broadly spoken, numerical, financial and temporal flexibility refer to the aspects of job stability, financial reward and working times. Next, functional flexibility can be related to the job design. Most studies find clear relations between functional flexibility and innovation (e.g. Arvanitis, 2005; Martínez-Sánchez, Vela Jiménez, Pérez-Pérez, & de-Luis-Cariner, 2007; Michie & Sheehan, 2001), while they cannot find such straightforward relations for the other types of flexibility (e.g. Lorenz & Valeyre, 2005; Michie & Sheehan, 2001; Storey, Quintas, Taylor, & Fowle, 2002).

Confronted with these sometimes conflicting results, researchers have tried to distinguish between different types of HR practices, depending on their effects. In these contexts, some proposed distinguishing between High-Performance and High-Involvement work systems (Boxall & Macky, 2009), while others referred to high-road and low-road strategies (Michie & Sheehan, 2001).

This literature stream further stresses the need to study different sets or systems of HR practices as their individual effects are generally small (Laursen & Foss, 2003). The key issue is to find different sets of *complementary* HR practices that strengthen each other and consequently affect the organisational performance (Appelbaum et al., 2000; Boxall, 1998; Ichniowski, Kochan, Levine, Olson, & Strauss, 1996). In doing so, most authors assume that these HR practices affect the organisational (innovative) performance through a positive effect on the employee and team level. Although critics argue that these effects can also be negative and result in work intensification (Boxall & Macky, 2009; Ramsay, Scholarios, & Harley, 2000). The way these HR practices affect the employee (and in turn the organisation) is rarely explicitly studied in this literature stream although '*Theoretically, strategic HRM scholars have reached an agreement that employee outcomes serve as one of the important mediators of the relationship between HR systems and firm performance*' (Jiang, Takeuchi, & Lepak, 2013, p. 1453). Boxall and Macky (2009) consequently stated that '*The path of better research lies in examining the underpinning processes experienced by workers (...) and charting their links to employee and operational outcomes*'. It is the explicit aim of this study to indeed look at how aspects of the employment relationship affect employee behaviour, which in turn is assumed to affect the company performance (see Figure 2).



**Figure 2** HPWS literature

The HPWS literature is inductive by nature. It identifies different aspects of the HR policy and practices (and sometimes also aspects of the organisation) and empirically studies the extent to which they contribute to organisational performance or innovation. The HPWS literature lacks a clear theoretical (and empirical) framework that can predict and explain observed relations between HR practices and employee or organisational outcomes (Van Hootegeem, 2000, pp. 328–330). For the theoretical arguments and interpretations of the results, the articles in this literature stream often build on other theories and models.

### 3.2 The importance of motivation: creativity literature

A second literature stream that will be used for the development of our hypotheses is the employee creativity literature. This literature extensively covered the concepts of employee creativity and its relations with the job design on the one hand, and financial incentives on the other. As will be developed in detail in Chapter 3, IWB and employee creativity are similar but not identical concepts. Where employee creativity focuses on absolutely new ideas of employees, IWB refers to new ideas for a given context. IWB can thus involve applying existing practices to new fields in the work. Further, employee creativity focuses exclusively on the idea generation phase, while IWB explicitly includes behaviours referring to the implementation phase of innovations. Yet, as the IWB concept is relatively new, insights from the creativity literature are frequently used to develop hypotheses on the relations with IWB.

The creativity literature has developed only recently and is highly influenced by the work of Amabile (1988), Van de Ven et al. (2000) and Kanter (1988). More specifically, the *componential model of creativity* developed by Amabile and her colleagues (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Amabile, 1988, 1996) continues to influence the contemporary crea-

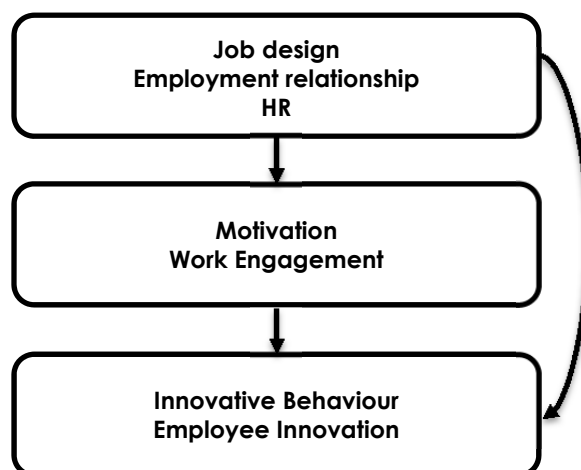
tivity research. The IWB literature started even more recently with two seminal articles of Scott and Bruce (1994, 1998) and was popularised by the work of Janssen (2004, 2000). Since then, a growing number of studies use the IWB concept. From the beginning, the IWB literature lacked a clear theoretical basis that incorporated existing knowledge and could guide further research. The IWB literature has almost always drawn on insights from the creativity literature and other theoretical models to empirically assess certain relationships. This IWB literature is rich in terms of the areas covered and in bridging independent literature streams, yet at the same time it is poor in terms of developing a consistent research line. Therefore, the taking into account of the insights of the creativity literature in this dissertation is indispensable.

The highly influential componential model of creativity (Amabile, 1996) proposes three essential components for innovation: (1) domain relevant skills, (2) creativity relevant processes and (3) task motivation. While not ignoring the importance of personality factors, Amabile (1997) stresses the important influence of context variables on the motivation and ability of employees to be creative at work. While the first two components refer to the ability of employees to be creative at work, the third one determines whether or not they will actually do so. This task motivation can take two forms: intrinsic motivation or extrinsic motivation. Intrinsic motivation refers to motivation based on the work tasks themselves. If the work is interesting and challenging, employees will be motivated to do a good job because they like to do so. Extrinsic motivation on the other hand is motivation based on sources outside of the task. One can be motivated to do a task because it pays well or because it results in an important and valued place in society. According to Amabile (1988, 1996), it is intrinsic motivation that will stimulate employee creativity and not extrinsic motivation. Focusing first on the intrinsic motivation side, a wide variety of studies identified different contextual, task-related aspects that increase the intrinsic motivation of employees and in turn affect their creative performance. Here, the job plays a major role of importance (Hammond, Neff, Farr, Schwall, & Zhao, 2011) and in this job, job autonomy probably received the most scholarly attention (Shalley & Gilson, 2004).

Extrinsic motivation, and more specifically the attribution of financial rewards to employees, has been the subject of fierce debate between creativity scholars. Zhou et al. (2011) referred to this debate as the battle between romanticism and utilitarianism. According to utilitarianism, employees will be most motivated by extrinsic rewards such as monetary compensation (Edwards, 1989; Eisenberger & Rhoades, 2001; Eisenberger & Shanock, 2003). Romanticism, on the other hand suggests that innovative behaviour is sparked by intrinsic motivations. According to the romanticists, extrinsic rewards like PRP would refocus the attention of employees from the job content to the job outcomes (the reward). As a result, employees would be less, rather than more innovative at work. Baer et al. (2003) sought to go beyond this debate by researching the interaction between what they called 'job complexity' and the perception of being rewarded for creativity. Interestingly, they found that feeling

rewarded had a positive effect in simple jobs, but a negative effect in complex jobs. As complex jobs provide opportunities for intrinsic motivation, financial rewards divert the attention of the employee and reduce creativity. In simple jobs in which employees have few reasons to be intrinsically motivated, extrinsic rewards do not divert the motivation, but provide the necessary incentive for employees to invest in their jobs and be creative. Although revealing, this study has a double limitation. First, Baer et al. (2003) refer to job complexity, while their measurement actually refers more to job autonomy. This is of course confusing. Second, the authors measure the 'perception of being rewarded for creativity'. Besides this being a very subjective measurement, it is also problematic as most flexible rewards in organisations are not focused on rewarding creativity, but on rewarding performance in general.

The importance attributed to intrinsic and extrinsic motivation in the employee creativity literature relates to an important assumption of this literature stream. This assumption states that the job (and other antecedents) affects employee behaviour through a change in the overall motivation or engagement of the employees. Some recent overview articles called for studies to explicitly model this indirect effect (Shalley & Gilson, 2004; Shalley, Zhou, & Oldham, 2004). In this dissertation, we respond to this call and explicitly model the direct and indirect effects through changed levels of work engagement (see Figure 3). In doing this, one can identify possible structural effects of the job on employee behaviour. Some job characteristics might indeed affect employee innovation, not only because these motivate employees, but also because they simply enable or structurally stimulate them to be innovative.



**Figure 3** Direct and indirect effects

Contrary to the extensive coverage of the job and forms of reward in the creativity literature, almost no attention was given to variables such as job insecurity or working times. Three of the main review articles do not mention any study related to these concepts (Hammond et al., 2011; Shalley & Gilson, 2004; Shalley et al., 2004). Only one study of Probst et al. (2007) related

both concepts using both experimental and survey research and found significant negative effects of perceived job insecurity on creative performance.

### **3.3 The role of autonomy: job design models**

Closely related and sometimes overlapping with the creativity literature, a whole literature stream focuses on the effect of the job itself. This job design literature has a long tradition of stressing the importance of the job and its effects on employee outcomes. Over time, various theoretical models were developed such as Herzberg's' motivation-hygiene theory (1966), Hackman and Oldham's Job Characteristics theory (1980) or Karasek's Job-Demands Control theory (1979). Building on these models, Bakker and Demerouti (2007) recently developed the Job-Demands Resources theory (JD-R).

In the JD-R model, Bakker and Demerouti (2007) begin with the assumption that in every occupation there are specific job characteristics that can be classified in two general categories: job demands and job resources. Job demands refer to the *'those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills'* (Bakker & Demerouti, 2007, p. 312). Job resources on the other hand, are *'those physical, psychological, social, or organisational aspects of the job that are either/or: (1) functional in achieving work goals, (2) reduce job demands and the associated physiological and psychological costs or (3) stimulate personal growth, learning, and development'* (Bakker & Demerouti, 2007, p. 312). Job demands are not necessarily negative, but can become negative when they are not met with the necessary resources to cope with them, or when the demands are so high that employees cannot adequately recover from them. The JD-R model focuses on the main effects between job demands, job resources and employee outcomes, but also the interaction effects between the two. As such, Bakker and Demerouti (2007) propose that job resources may buffer the impact of job demand on job strain and that job demands strengthen the effect of job resources on work motivation.

Various studies have used the JD-R model to study the relation between the job and employee outcomes such as work engagement (e.g. Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008), proactive work behaviour (e.g. Salanova & Schaufeli, 2008) and even IWB (Holman et al., 2011). Also various JD-R studies include references to job stability or extrinsic rewards in their studies (e.g. Hu & Schaufeli, 2011), yet no studies can be found including references to job stability or extrinsic reward policies while studying innovative behaviour as an employee outcome.



A job design related variable that received a lot of attention in the various job design models is the role of autonomy. Job autonomy can be defined using the old, but still relevant definition of Hackman and Oldham (1976, 1980). They defined autonomy as '*The degree to which the job provides substantial freedom, independence, and discretion to the individual in **scheduling** the work and in determining the **procedures** to be used in carrying it out*'. Job autonomy refers to the decision latitude of employees to decide about how to approach the work. Job autonomy (or sometimes also referred to as job control) is seen as a powerful job resource which is motivating in itself and enables employees to cope with high job demands. For Innovative Work Behaviour, job autonomy also plays an important role. First, it provides the employees with a sense of control over their work and is likely to increase the overall intrinsic motivation of employees (Bakker & Demerouti, 2008; Bakker et al., 2007; Halbesleben, 2010), which is a major trigger for employee creativity (Amabile, 1979). Second, it gives employees the necessary space to experiment with alternative work procedures and methods that they can propose as an innovation in a later stadium. This was confirmed by a study of Parker et al. (1997), which found that autonomy increases the making of suggestions for improvements. Third, high job autonomy increases the employee's feelings of responsibility towards his job, which should in turn increase proactive behaviour such as idea generation and suggestion (Ohly & Fritz, 2009; Sharon K. Parker, Williams, & Turner, 2006). Building on these insights, this dissertation takes into account and studies in detail the role of job autonomy in relation to IWB.<sup>3</sup>

The JD-R model can however be criticised for a number of reasons. Since its launch, the model has known a tremendous increase in popularity. The model is indeed very attractive for the framing of a research question because it is relatively simple and very flexible. The model is an extension and elaboration of Karasek's previously developed Job Demands-Control model (1979, 1990), which stated that the essential variables in a job are the degree of job control and job demands. The JD-R model expands this framework by stating that the essential aspects of a job can indeed be categorised in two categories, but that the variables in these categories (job resources and job demands) depend on the job concerned. As a consequence, researchers can themselves choose with flexibility which job variables or aspects to include in the research. At the same time, the theoretical development behind the model is not very well developed. In many of the JD-R studies, the authors use different theories such as the Self-Determination theory (Deci & Ryan, 2004), the Conservation of Resources theory (Hobfoll & Shirom, 2001) or others to develop the concrete hypotheses and interpret the results. Indeed in this sense, the JD-R model looks more like a research framework than like a job design theory.

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<sup>3</sup> The role of job autonomy is treated in detail in Chapter 8.

As a consequence, the JD-R model and the other job design models are interesting, yet possess insufficient theoretical frameworks for the study of our research questions. Their terminology and research insights will be used, but more specific theories will be evoked for the development of specific hypotheses.

### **3.4 Research focus, research gap and academic contribution**

All three literature streams are of importance for the general research question of this dissertation, yet unfortunately none of the three literature streams covers our whole area of interest. In Table 1 we give a schematic overview of how the different literature streams contribute to our understanding of the relation between employment relationships and employee innovative behaviour.

The HPWS literature focuses extensively on the effect of the employment relationship and the job design on innovation, but does so at the organisational level. Although they assume that different HR practices affect the organisational performance through changes in employee behaviour, a multitude of other organisational level aspects can affect this relation. This restrains the authors from making conclusions regarding the innovative behaviour of employees. Research studying the effects of HR practices on individual outcomes is therefore identified as a way to further develop the studies (Boxall & Macky, 2009).

Next, the employee creativity stream is essential in the conceptualisation of IWB and contributes understanding through its relationship with job characteristics and financial rewards. The way the job characteristics are included in the model is nevertheless rather underdeveloped and largely ignores the rich tradition in the job design literature. Also, the employee creativity research is to a great extent uninterested in aspects related to job stability or working time arrangements.

The job design literature gives a richer insight into the relation between job characteristics and employee outcomes, but focuses more on employee outcomes in terms of burn-out or work engagement and less on creativity and innovation. Also, this literature stream only rarely studies aspects of financial rewards or working time arrangements.

**Table 1**      **Literature**

|                     | Job Design | Employment Relationship |                   |               | IWB |
|---------------------|------------|-------------------------|-------------------|---------------|-----|
|                     |            | Job stability           | Financial rewards | Working times |     |
| HPWS                | (X)        | X                       | X                 | X             | 0   |
| Employee Creativity | X          | 0                       | X                 | 0             | X   |
| Job Design          | X          | X                       | (X)               | 0             | X   |

Additionally, this dissertation focuses both conceptually and empirically on the innovative behaviour and contributions of all employees; both white- and blue-collar, permanent and temporary, skilled and unskilled. This perspective diverges from the traditional population studies in the creativity literature, which is generally focused on workers, managers or blue-collar employees in large industrial firms. A traditional Taylorist approach would of course suggest that innovation should be a function of a certain type of employees in the company, as they distinguish between the ‘conceptualisation of the work’ (thinking) and the ‘execution of the work’ (doing). Others would argue that blue-collar workers can contribute to modernising the work design, to innovation and performance optimisation, but only to a certain extent, and not when they are involved in non-permanent and non-central positions. As argued by Evans (2012), so-called routine workers should not be viewed as passive recipients of knowledge, but as active contributors. In this dissertation we take an approach that assumes that all employees, independent of their hierarchical position in the firm, can contribute to innovation. This assumption is partly assessed in Chapter 5.

#### 4. The pieces of the puzzle: PhD overview

As this dissertation is article-based, guidance on how the pieces (the articles) make the puzzle (the dissertation) is needed. After an introduction on the main data source of this dissertation in Chapter 2, Chapter 3-8 present 6 self-standing articles. Of these articles, four are accepted for publication in internationally recognised scientific journals,<sup>4</sup> while the two others are still in the review process.<sup>5</sup>

In Chapter 3, ‘*The Innovative Work Behaviour concept: definition and orientation*’, we make an in-depth study of our dependent variable of interest: Innovative Work Behaviour. IWB is a relatively young concept that has attracted considerable academic attention in recent years. Up until now, it was mainly used in empirical settings. As a result, we have identified

<sup>4</sup> Chapter 3, 4, 5 and 7.

<sup>5</sup> Chapter 6 and 8.

some major issues regarding the exact definition and conceptualisation in the literature. Building on an extensive literature study, we propose a new definition and distinguish the IWB concept from other, closely related concepts such as employee creativity, intrapreneurship or Employee-Driven Innovation.

In Chapter 4, '*Mainstreaming innovation in Europe*', we focus on the *Employee-Driven Innovation (EDI)* concept. EDI refers to innovation in which the employee plays a key role. The employee's role may refer to the initiation of innovation and/or the development and application of innovation in the company. We build on the EDI concept of Hoyrup et al. (2012), but develop in more detail the various conceivable types of EDI. We observe that about 40% of our respondents were never involved in any innovation process in their organisation, and that genuine employee initiated innovations occur only rarely in the sectors being researched. In the same article, we inspect inter- and intra-sector differences when it comes to the Innovative Work Behaviour of employees. From the analyses, we learn that large differences regarding the average employee involvement in innovative behaviour exist between sectors. The chemical industry and the social-profit sector scored significantly better than sectors such as the banking, the hotels and restaurants or the retail sector. When it comes to intra-sector differences, the picture is relatively different. Intra-sector differences in employee innovative behaviour between occupational groups are largest in the social-profit, retail, and hotels and restaurants sectors, while they are much smaller in the chemical industry and in the banking sector. Accordingly, we launch the concept of *Innovation Mainstreaming* that refers to '*the introduction of innovation in the work tasks of all employees, from all occupational groups*'.

In Chapter 5, '*labour flexibility and innovation, complementary or concurrent strategies*', we review the literature on the relation between labour flexibility and innovation. We do so by focusing on organisational innovation on the one hand and Employee-Driven Innovation on the other. The focus is on three types of labour flexibility: (1) functional flexibility, (2) financial flexibility and (3) contractual flexibility. Based on insights from labour economics, organisational sociology and industrial psychology, we sought for indications on how these different types of employment flexibility affect innovation. We conclude that there are multiple indications for a positive relation between different forms of functional flexibility and both EDI and organisational innovation. This is nevertheless not so for contractual and financial flexibility. There are indications that these types of labour flexibility are potentially negative for both EDI and organisational innovation.

Chapter 6, '*Innovative work behaviour and performance-related pay: rewarding individually or collectively?*', investigates the relation between financial flexibility and employee innovation. Looking at individual and collective types of performance-related pay (PRP), we

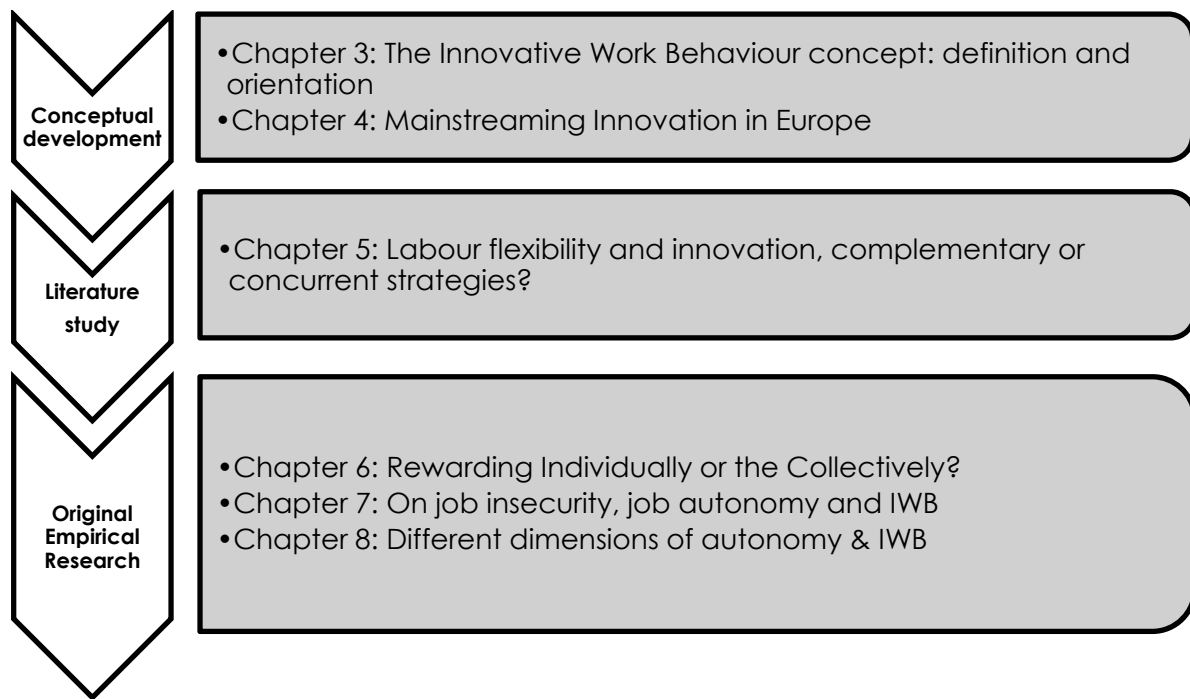
observe that effects on employee innovation are not straightforward. For individual PRP, the effect is largely dependent on the employee's type of job. Individual PRP tends to weaken the important positive relation of job autonomy on IWB. In this sense, it can potentially have negative effects. Collective PRP, on the other hand, is positively related to IWB and this relationship is strengthened when combined with organisational resources such as upward communication.

Chapter 7, *'On the relations between job insecurity, job autonomy, Innovative Work Behaviour and the mediating effect of work engagement'*, focuses on job insecurity, autonomy, work engagement and IWB. Special attention goes to the indirect effect of job insecurity through work engagement, and the role of autonomy. Using Structural Equations Modelling, the results show that job insecurity is negatively related to IWB, both directly and indirectly through depressed levels of work engagement. The effect of job insecurity is nevertheless limited and far weaker than the positive effects of job autonomy. We also remark that job insecurity and autonomy are related in the sense that insecure jobs tend to be jobs with poor job autonomy.

Chapter 8, *'Different dimensions of job autonomy and their relationship with work engagement and Innovative Work Behaviour'*, focuses on the concept of job autonomy and distinguishes between four types of job autonomy regarding (1) the work method, (2) the work scheduling, (3) the work time and (4) the work place. Using structural equations modelling, we study their relationship with work engagement on the one hand and IWB on the other. The results show that all studied dimensions of autonomy are bivariate related to higher levels of work engagement and IWB. Yet, when simultaneously analysing the types of job autonomy, most of the effects become insignificant. For IWB, work method and work place autonomy play a positive role. This indicates that the current managerial attention, for example work time autonomy (flexi-time), only contributes to enhanced work engagement and IWB insofar as such systems result in higher work method autonomy.

Figure 4 gives an overview of the different research articles in this dissertation. The first two make a more conceptual contribution to the research field and the third reviews the literature on the issues. All other chapters focus on the operationalisation of a particular aspect of the general research question.

*'On the relations between job insecurity, job autonomy, Innovative Work Behaviour and the mediating effect of work engagement'.*



**Figure 4** Dissertation chapters' overview

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## Chapter 2 Method

In this second chapter, we give a concise overview of the data used in this dissertation. All of the data analyses of this dissertation are based on survey data. We here introduce the main source of data: the VIGOR survey and discuss its main characteristics. In the annex, a more technical discussion can be found on the measures used, the pilot study, the survey procedures, the non-response analysis and the data quality analyses.

### 1. Survey population

The population of the VIGOR survey was defined as the unionised workers or 5 different sectors in Flanders. The population is characterised by: (1) the inclusion of all workers of the sectors, (2) the limitation to five sectors, (3) the limitation to the Flemish region and (4) the limitation to the unionised workers of the different sectors.

The VIGOR study chose to take a sample of **workers** from different industries. We thus refrained from a focus on a specific type of employee. Studies into IWB frequently focus on a specific set of knowledge workers (Dorenbosch et al., 2005; de Jong & Den Hartog, 2005, 2010; Scott & Bruce, 1998), managers (e.g. Janssen, 2004; de Jong & Den Hartog, 2007; Kleyssen & Street, 2001; Spreitzer, 1995) or employees from a very specific industry (e.g. Basu & Green, 1997; de Jong & Janssen, 2005; Pieterse, van Knippenberg, Schippers, & Stam, 2010; Slåtten & Mehmetoglu, 2011). Only a few studies focused on the innovative behaviour of a variety of employees in different sectors. As the VIGOR program aimed to study the innovative behaviour of employees in general, we chose not to focus the attention on a specific group of employees. This choice fits in with the general view found in the Employee-Driven Innovation literature, which states that all employees, in all sectors and at all hierarchical levels, can contribute to innovation.

The choice of **industries** was based on considerations regarding the research questions. As the objective was to study the impact of variations in the employment relationships, the data needs to contain a sufficient degree of variation regarding job security, flexible pay policies and flexible working hours. On the basis of the results of the European Working Conditions Survey (Eurofound, 2010b) and the European Labour Force Survey (European Commission, 2013), we selected the following five industries in which we assumed we would find a sufficient

degree of variation in the aforementioned fields: retail, banking, hotels and restaurants, chemical industry and non-profit.<sup>6</sup>

The VIGOR survey limited the sample to the **Flemish region** for practical reasons. Including workers from Brussels and Wallonia might increase the generalisability of the findings and might open possibilities for interesting comparisons, however, the extra costs in terms of translation, recruiting French speaking interviewers and increasing the sample size outweighed the possible advantages. Neither did we expect any significant difference to exist among workers in the Brussels or Walloon region in the relation between the employment relationship and their innovative performance.

A further limitation of the population referred to the selection of only the **unionised employees** in the sectors concerned. This strategic choice was made based on several considerations.

- **The need for a direct access to the employees.** The aim of the survey was to study the effect of certain HR practices (flexible employment relationships) on employee behaviour. Frequently, HR practices such as reward policies are implemented organisation wide. A traditional data collection strategy that targets employees through the cooperation of the organisation would prove very inconvenient. This would require the researchers to contact a considerable number of organisations in order to study the effect of different employment relationships and controlling for a whole range of other organisational characteristics and practices. Moreover, such a strategy is very likely to be biased by the non-participation of a certain type of organisation. Contacting the employees directly without passing through their employers was therefore conceived as being a more efficient and convenient strategy.
- **Limited alternatives.** Alternative strategies to obtain direct contact with the employees were considered, but had some major limitations. For example, a sample could be taken using the social security databanks (RSZ) or administrative population databanks (*rijksregister*). Such a strategy would have two major disadvantages. First, it is a time-consuming process and second, the provided information does not allow the researchers to contact the respondents using different means (telephone, home visit) in order to boost the response.
- **Representativeness of the union organisations.** The unionisation rate in Belgium is particularly high. Only in some Scandinavian countries do unions represent a larger share of the working population. Moreover, the Belgian unions tend to have a very diverse, and representative, membership. Employees from very different hierarchical positions and professions are members of the union (Van Gyes, 2011), which is in line with our research objectives.

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<sup>6</sup> These sectors were selected using their appropriate joint committees (Paritair Comité). In Table 1 the selected joint committees are given.

This last choice, of course, has some consequences. In the first place, we cannot make strong generalisations on the prevalence of innovation, innovative behaviour or other job related factors in relation to the population of all employees from the studies on industries. This is nevertheless not the aim of the study. This study seeks to research the interrelations between variables related to job design, employment relationships, employee attitudes and behaviour. The non-representativeness of the sample for the general population of employees can be an issue if being a union member would have a significant effect on the relations between the various parameters. We are not aware of any study indicating that the effects of employment relationship variables on employee innovative behaviour would be significantly different for unionised employees.

We also note that in the literature on job design or employee creativity, studies rarely use representative samples in their research settings. In general, these studies are based on non-random samples of employees from a limited number of organisations. In this sense, this study even contributes to the research literature as it makes a confirmation possible (or not) of research findings using a much more diverse sample than usual.

## **2. Sample**

In order to draw a sample from the population of unionised employees from five different industries in Flanders, we developed a partnership with the two largest union confederations of Belgium that represent over 90% of the unionised employees: ACV & ABVV (Vandaele & Faniel, 2012). The smaller liberal union ACLVB was not taken into consideration as they represent only about 10% of the unionised population in general and even less in some of the concerned industries.

From the population of unionised workers from five industries in Flanders, a stratified sample (Weisberg, 2009, p. 240) was taken based on the different industries, occupational group and union membership. The stratified sample was disproportionate when it came to the industries. We chose to include the same number of employees for every industry (440), which is not related to the relative importance of these different industries in Flemish employment. The sample was further proportionally stratified when it came to the occupational group and union membership. Regarding the occupational group, the population distribution in employment between blue- and white-collar employees was mirrored in the sample. As such, 55% of the sample consisted of members of the ACV union and 45% of the ABVV, which comes close to the actual distribution of membership (Vandaele & Faniel, 2012). This stratification resulted in a planned sample that is given in Table 1.

**Table 1**      **Planned sample**

| Sector               | Joint Committee<br>( <i>Paritair Comité</i> ) | ACV         |              | ABVV        |              |
|----------------------|---|-------------|--------------|-------------|--------------|
|                      |   | Blue-collar | White-collar | Blue-collar | White-collar |
| The non-profit       | JC 329  | LBC 40      | LBC 200      | AC 40       | BBTK 160     |
| Chemical industry    | JC 116  | BIE 120     |              | AC 100      |              |
|                      | JC 207  |             | LBC 120      |             | BBTK 100     |
| Hotels & Restaurants | JC 302  | V & D 240   |              | Horval 200  |              |
| The banking sector   | JC 308 & 310                                  |             | LBC 240      |             | BBTK 200     |
| The retail sector    | JC 119  | V & D 40    |              | Horval 40   |              |
|                      | JC 201, 202, 311 & 312                        |             | LBC 200      |             | BBTK 160     |
| Subtotal             |   | 440         | 760          | 380         | 620          |
| Total ACV & ABVV     |   |             | 1,200        |             | 1,000        |
| <b>Total</b>         |   |             |              |             | <b>2,200</b> |

\* ACV: Algemeen Christelijk Vakverbond; ABVV: Algemeen Belgisch Vakverbond; LBC: Landelijke Bediendencentrale; BIE: Bouw, Industrie & Energie; V&D: Voeding & Diensten; AC: Algemene Centrale; BBTK: Bond der Bedienden Technici en Kaderleden; HORVAL: Centrale Voeding Horeca Diensten.

### 3. Survey design – Data quality

The VIGOR study was conceived as a standardised face-to-face questionnaire. This method was chosen for three main reasons. First, as this method involved a personal communication between the interviewer and the respondent, response rates using this methodology are generally higher (Saris, 2007). Second, using this method, longer surveys can be successfully completed, reducing the item non-response considerably. Third, as some issues could be rather complex, the presence of a trained interviewer can resolve some issues of misunderstanding (Weisberg, 2009). We further opted to use a very standardised questionnaire in which the interviewer was required to read the questions exactly as they were given and take a neutral stance towards answers (Weisberg, 2009, pp. 47–49). One major disadvantage of a face-to-face survey is nevertheless the risk of social desirability in answering questions. The survey did not include many sensitive questions, with the exception of a number of items regarding the income of the respondents. Here, several strategies were used to curb social desirable answers.

The chosen survey strategy was effective. The overall refusal rate reached 41% with large differences between sectors and only limited differences regarding gender or type of employee. Only 2 of the 927 respondents stopped the survey because of its length and the item non-response was limited, even for more sensitive and difficult questions about the respondent's income. For details we refer to Annex 2.



## 4. Survey issues

### 4.1 Multilevel research

The research strategy of contacting the employees directly has a consequence in terms of analytical strategy: it is difficult to perform a **multi-level study**. Multi-level analyses are generally advised when data have a hierarchical structure. In this case, employees are nested in organisations that are themselves nested in industries. When you apply normal ordinary least squares regression on hierarchical data, one runs the risk of having incorrect estimates and incorrect standard errors (Snijders & Bosker, 2011). Nevertheless, due to our sampling strategy, a respondent is frequently the only one interviewed from his/her organisation. Other respondents can be grouped in organisations, but this is very much dependent on the industry and the proportion of large and small companies (e.g. banking vs. hotels and restaurants). The rule of thumb for doing multi-level analysis of having at least 30 higher order units with at least 30 lower order observations (Maas & Hox, 2005) was not attained, either for the organisational or for the industry level. This is on the one hand a drawback as we cannot use multilevel models to gain better estimates of our standard errors. Yet on the other hand, the chance that the found standard errors are incorrect is rather low as our data is almost non-hierarchical in structure.

### 4.2 Common method variance

A disadvantage of the used methodology is the risk for bias due to so-called *common method variance* (CMV). CMV refers to covariance between variables that is caused by the use of one single method, and not by actual relations between variables. The VIGOR study is indeed based on one single data source: the employee. CMV can bias the results and endanger the validity of the findings (Podsakoff, MacKenzie, & Podsakoff, 2012).

Several post-hoc tests were developed by researchers to assess the extent to which the use of a common method has an impact on the validity of the findings. Yet, most authors suggest that preventive pre-hoc strategies are to be preferred (Conway & Lance, 2010). The best preventive strategy is, of course, to collect information from two different sources. Yet, our sampling design did not allow for a supervisor or peer-rating of certain variables. We therefore used several strategies to prevent CMV and limit the risk of bias on our results based on the suggestions made by Podsakoff et al. (2012).

- **Temporal separation:** As Weijters et al. (2009) demonstrated that items positioned relatively close to each other on the survey show greater correlation. On several occasions, the VIGOR study confused items referring to different latent concepts to reduce CMV.

- **Psychological separation:** The measurement of some related concepts was also set apart through a psychological separation. As such, opinion questions using vague quantifiers were followed by more factual question before more opinion questions were presented.
- **Methodological separation:** The VIGOR survey also used different methods in the same survey. As such, the study uses different answer formats for related and unrelated variables. Next, we combined multiple and single-item measurements (Gardner, Cummings, Dunham, & Pierce, 1998).

These preventive strategies are no guarantee against bias due to CMV. Therefore, we also used post-hoc tests such as those explained in Chapter 7. Moreover, in Chapter 6 significant interaction effects are found between important variables. Finding significant interaction effects is generally considered as an indication that CMV has only a limited impact (Evans, 1985; Siemsen, Roth, & Oliveira, 2010).

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## **Chapter 3 The innovative work behaviour concept: definition and orientation**

**Abstract:** parallel to the policy focus on innovation, a new behavioural concept was launched: Innovative Work Behaviour (IWB). Despite the frequent use of IWB in empirical studies, there has rarely been attention given to the concept itself. In this study, we critically discuss the existing definitions and conclude that an appropriate definition and conceptualisation is lacking. On the basis of the available literature, the conclusion is drawn that Innovative Work Behaviour is about workers' behaviour, focusing on the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures that are new and presumably favourable for the relevant unit of adoption. IWB consequently covers not only extra-role but also in-role behaviour. It can further refer to radical as well as incremental innovation. The IWB concept has a strong overlap with other concepts such as creativity in the workplace, intrapreneurship, organisational citizenship behaviour, personal initiative, taking charge, and employee -driven innovation. The IWB concept is nevertheless unique in its exclusive focus on innovation in many forms.

**Keywords:** Innovative Work Behaviour, Definition, Creativity, Employee Innovation

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**The original (Dutch) article can be found in Annex 1.**

## 1. Introduction

If Europe is to remain competitive, it must be innovative. In this context, most of the attention of policy makers focuses on the promotion of research and development activities (European Commission, 2010). Many small and large innovations are nevertheless the result of workers' initiatives (EUWIN, 2012). Moreover, according to some researchers, it is to a far greater extent those small scale workers' innovations that make the difference in terms of competitiveness, than the large break-through innovations that can easily be copied (Getz & Robinson, 2003; Robinson & Schroeder, 2004).

In this context, a new concept is gaining popularity: Innovative Work Behaviour (IWB). Since the launch of the concept by Scott and Bruce (1994, 1998) it was picked up and used in many different studies. In these studies, however, there is little evidence of a detailed conceptualisation of the IWB concept. Often the studies do not even provide a comprehensive definition of the concept or simply refer to the concept of 'innovation'.

The importance of clear conceptualisations is not to be underestimated (Osigweh, 1989). Without clearly defined concepts an accumulation of knowledge is impossible and findings cannot be verified or validated. For this reason, we study here the IWB concept, its definition and its relationship to other concepts in the literature.

## 2. Innovative work behaviour: definition

Since the launch of the concept of 'Innovative Work Behaviour' in 1994 and 1998 by Scott and Bruce (1994, 1998), the literature using IWB has grown steadily. By the end of 2012 there were 31 publications in reputed international and Dutch journals using the concept in their analyses. These studies are characterised by a diversity of research methods (qualitative and quantitative) and approaches (IWB as dependent and independent variable). Notwithstanding this relatively rich empirical literature, the conceptual development of IWB remains meagre. Frequently, studies do not define the concept (e.g. Holman et al., 2011; Janssen, 2005; Krause, 2004; Pot, Kraan, & van den Bossche, 2009). Even the two founding fathers of the concept, Scott and Bruce (1994, 1998), do not provide a definition for IWB. Articles that do suggest a definition often only refer to West and Farr's (1990) innovation definition (e.g. Kleysen & Street, 2001; Reuvers, van Engen, Vinkenburg, & Wilson-Evered, 2008; Yuan & Woodman, 2010). The definitions that were developed for IWB were only rarely adopted by other researchers. There is, in other words, no generally accepted definition for IWB. The definitions that are available (see Table 1), have several drawbacks. We here critically discuss the various alternatives, using conceptual and empirical insights from the IWB literature.

**Table 1** IWB definitions

| Author(s)  | IWB definition  |
|--|---|
| West en Farr<br>(1990, p. 9)                             | The intentional introduction and application, within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organisation or wider society.   |
| Spreitzer<br>(1995, p. 1449)                             | Innovative behaviours reflect the creation of something new or different. Innovative behaviours are by definition change-oriented because they involve the creation of a new product, service, idea, procedure, or process.   |
| Janssen<br>(2000, p. 288)                                | IWB is defined here as the intentional creation, introduction and application of new ideas within a work role, group or organisation, in order to benefit role performance, the group, or the organisation.   |
| Dorenbosh,<br>Van Engen en<br>Verhagen<br>(2005, p. 129) | IWB concerns the willingness by individual employees to constitute on-the-job innovations – for example, the upgrading of ways of working, communication with direct colleagues, the use of computers, or the development of new services or products.  |
| Carmeli, Meitar en<br>Weisberg<br>(2006, p. 78)          | Innovative behaviour is defined here as a multiple-stage process in which an individual recognises a problem for which she or he generates new (novel or adopted) ideas and solutions, works to promote and build support for them, and produces an applicable prototype or model for the use and benefit of the organisation or parts within it. |
| Tuominen en<br>Toivonen<br>(2011, p. 398)                | We understand innovation and change activities as all activities that aim at contributing to the creation and utilisation of beneficial novelties in an organisation.   |

### 3. Innovation and innovative work behaviour

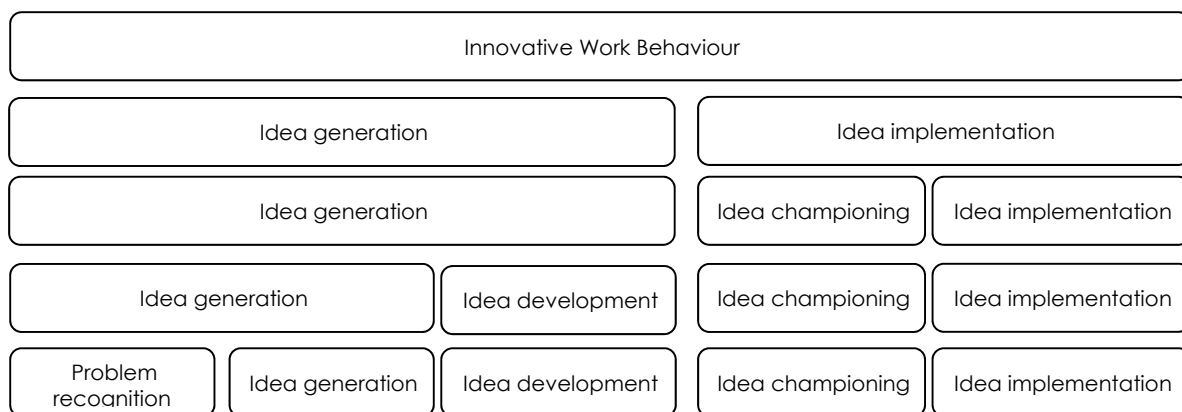
The most cited definition of IWB is an exact copy of the definition of innovation proposed by West and Farr (1990). No less than twelve of the 31 articles on IWB use this general definition of innovation to define IWB. The definition is particularly instructive when it comes to the description of innovation as it emphasises the relative nature of the novelty of an innovation. An innovation should not be absolutely new, but new to a given context. A manager trying to introduce the good practices of another company in his/her organisation is certainly involved in innovation, despite the fact that he develops nothing absolutely new. Further West and Farr (1990) discuss the introduction and application of a novelty. Merely conceiving of a novelty is not sufficient to speak of innovation. The design of a change programme is not an innovation as long as the change is not converted into effective action. This links well to the third main aspect of this definition, namely the dependence on the positive effect. According to West and Farr (1990) innovations are by definition positive changes. A novelty with no positive effect or even a negative effect is, by definition, no innovation according to West and Farr (1990). This definition gives a good insight into what innovation is and is not. But this definition cannot simply be used to define IWB. Firstly, because innovation is result dependent. A novelty is an innovation only if there is a positive effect. If we simply accept this definition as the definition of IWB, it also makes IWB result dependent. This means that the behaviour of employees can only be evaluated as IWB after the innovation has been implemented. The

categorisation of the behaviour is then dependent on the successful implementation of the innovation and its positive effects. An employee, who invests time in developing and testing a new idea that ultimately proves not to be effective, would in this performance dependent interpretation not behave in innovative way. His behaviour, however, does not differ fundamentally from the behaviour involved in creating a new idea that would be effective. Such a result-dependent interpretation would signify a huge limitation of the IWB concept (and measurement) and would limit its behavioural character. To maintain IWB as a behavioural concept, we should not look at the effects of the behaviour, but at the explicit aims of the behaviour. Innovative work behaviour should be *focused on* a positive outcome for the organisation.

A second reason why the innovation definition cannot be simply copied relates to the different phases of the innovation process. West and Farr (1990) focus on the introduction and application of a novelty. However, we know from Kanter (1988) and more recently from Tuominen and Toivonen (2011) that an innovation process is characterised by a high degree of uncertainty and discontinuity. Innovation processes are iterative and there are often moments of no progression and regression. In addition, innovation processes are often collaborations between different employees that distribute and redistribute tasks.

This complexity is not a fundamental problem for the definition of innovation, but it is for IWB. Most researchers of IWB (25 of 32 articles) therefore distinguish between different dimensions of Innovative Work Behaviour that relate to these phases of the innovation process. The IWB dimensions are largely built on the findings of Kanter (1988), which discriminates between four different phases of innovation: idea generation, seeking support for the idea, idea realisation and dissemination of the innovation. After omitting the final phase (dissemination), most researchers refer to three sub-dimensions (12 of 32 articles). Other authors refer to two (Krause, 2004; Yuan & Woodman, 2010), four (de Jong & Den Hartog, 2010; Dorenbosch, van Engen, & Verhagen, 2005; Knol & Van Linge, 2009) or even five dimensions (Kleysen & Street, 2001; Tuominen & Toivonen, 2011). Figure 1 shows an integrated visual representation of the various dimensions of IWB reported in the literature.





**Figure 1 IWB dimensions**

This brings us to the third reason why a simple copy of West and Farr's (1990) definition of innovation is not satisfactory for IWB. IWB does not necessarily cover all stages of the innovation process. Scott and Bruce (1994, p. 582) already suggested that '*individuals can be expected to be involved in any combination of these behaviours at any time*'. Janssen (2000) and the more recent qualitative study of Tuominen and Toivonen (2011) also confirm this point. This last study has also shown that employees often need other competences for the various dimensions of IWB. As such, employees need more social skills for the support seeking or implementation phases than for the idea generation. Depending on their competences and their position in the company, employees will be more involved with certain dimensions than with others (de Jong & Den Hartog, 2010; Holman et al., 2011; Krause, 2004; Tuominen & Toivonen, 2011). Moreover, some employees will exclusively orient their behaviour to a particular dimension of IWB and leave the rest to other employees with other skills. Their IWB is partial. If we strictly apply the definition of innovation to IWB, the behaviour of these employees would fall outside the IWB concept because it does not relate to both idea generation and the idea of introduction.

We conclude that West and Farr's definition of innovation (1990) cannot be copied for IWB, for three reasons. First, because this definition is dependent on results, second, because IWB has other dimensions than purely introducing innovation and application, and third, because the innovation definition does not allow for partial innovative behaviour.

#### 4. Alternative definitions of IWB

Not all authors and researchers define IWB by simply referring to the definition of innovation. In Table 1, we have given an overview of all the other proposed IWB definitions. A first proposal comes from Spreitzer (1995, p. 1449). The author talks about '*the creation of something*

*new or different*'. Spreitzer (1995) does not refer to the distinction between something absolutely new and something new in a particular context. In addition, there is no reference to the purpose of the novelty. Novelties that are not focused on the improvement of processes, products or services are therefore covered by this broad definition of Spreitzer (1995). Janssen (2000) is clear in this respect and refers to IWB behaviour as 'aimed at improving the performance'. Janssen (2000) also puts an end to the outcome dependency of the innovation definition. On top of that, Janssen (2000, p. 288) extends the focus and talks about the '*creation, introduction and application*' of new ideas. On the negative side, Janssen's definition (2000) is less clear about what needs to be understood by 'new ideas' and about the inclusion of possible partial IWB.

Dorenbosch et al. (2005) define IWB again as the '*willingness*' of an employee to develop innovations. The willingness term sounds as though it refers to an employee's attitude or intention more than effective employee behaviour. Carmeli et al. (2006) describe Innovative Work Behaviour by referring to the various activities that may be included as Innovative Work Behaviour. Their definition speaks of generating and developing ideas, finding support and the effective implementation of innovation in the workplace. The authors also point to the relative nature of the novelty by stating that ideas both new and acquired (novel or adopted) are included. Carmeli et al. (2006) also refer clearly to the intent of the innovation to contribute to the organisational performance. In contrast, this definition strongly suggests that one employee should be responsible for all innovation phases.

The final definition of Innovative Work Behaviour is from Tuominen and Toivonen (2011, p. 398). They refer to '*all activities aimed at contributing to the creation and utilisation of beneficial novelties (...)*'. Tuominen and Toivonen (2011) do not comment on what those activities can be. This definition also eliminates the result-dependency of the IWB definition by stating that IWB needs to focus on the positive novelties. One small downside is that this definition does not clearly indicate that innovations must be new to a particular context.

## **5. Towards a new definition IWB**

The overview of the different definitions of IWB makes some things clear. First of all, the authors put an end to the result dependency of the innovation definition. Both Janssen (2000), Carmeli et al. (2006) and Tuominen and Toivonen (2011) clearly refer to only the intention of making a positive contribution. Some of these definitions also examine in more detail the different dimensions of IWB. Carmeli et al. (2006) do so in detail while Tuominen and Toivonen (2011) refer to 'all activities'. These definitions answer two of our three criticisms formulated in relation to the use of the innovation definition for IWB. However, none of the proposed defini-

tions state that IWB may be partial. In addition, some of these alternative definitions do not explicitly refer to the relative novelty of innovations. We conclude that these authors (at least implicitly) agree with our criticism that simply copying the innovation definition to IWB is not a good practice. However, we also conclude that a well-fitting definition for IWB is to date still missing.

Such a definition must take into account the following aspects. First, Innovative Work Behaviour has to do with relative novelties, not absolute ones. Next, Innovative Work Behaviour can be partial and cover some dimensions, but not all. Thirdly, the definition of Innovative Work Behaviour relates to behaviour, not attitudes or output. Finally, calling something IWB cannot be dependent on the effect of the innovation that is the result of the employee behaviour. To meet these demands, we adapted West and Farr's definition of innovation (1990) to arrive at a definition of IWB that is consistent with the empirical work already done in relation to the concept.

*'Innovative work behaviour is all employee behaviour aimed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures, new and intended to benefit the relevant unit of adoption.'*

## **6. Extra-role vs. intra-role and large vs. small innovations**

The discussion on the IWB content of the concept is not settled. Another element of divergence in the conceptualisation of Innovative Work Behaviour relates to the intra- or extra-role nature of Innovative Work Behaviour. Is IWB only behaviour that employees perform outside of their explicit job expectations, or does the IWB concept also cover expected and required innovative behaviour?

Janssen (2000) argues for the first interpretation. IWB, according to Janssen goes '*beyond prescribed role expectations, and is not directly or explicitly recognised by the formal reward system*' (Janssen, 2000, p. 288). Innovative work behaviour is, from his perspective, discretionary behaviour that is not explicitly expected, and for which no formal rewards are granted. Many authors agree with Janssen and define Innovative Work Behaviour as extra-role behaviour (Dorenbosch et al., 2005; Ramamoorthy, Flood, Slattery, & Sardesai, 2005; Reuvers et al., 2008; Sanders, Dorenbosch, & Reuver, 2008).

In contrast with this, Tuominen and Toivonen (2011) conclude that innovative behaviour can be both intra-and extra-role behaviour, on the basis of qualitative data. They argue that innovative behaviour can be divided into three categories: it can be expected, be merely supported, or it cannot be supported by the organisation. According to them, innovative

behaviour is consequently both intra- and extra-role behaviour. The extent to which certain innovative behaviour is expected of employees depends on the hierarchical position of the worker and his job description. In extra-role innovative behaviour, employees change things (for the better) in the organisation without the cooperation or even the knowledge of management. As Janssen (2003) already indicated, Tuominen and Toivonen (2011) also found that such behaviour often takes place at the expense of good relationships with colleagues and managers. The difference between intra- and extra-role IWB can be subtle, contextual and vague. It is, according to Tuominen and Toivonen (2011), therefore essential to include both forms of IWB in the analysis and not simply to assume that any innovative behaviour of an employee is extra-role behaviour. This convincing qualitative finding is supported by quantitative results that establish strong statistical relationships between IWB and innovation as a job requirement (Unsworth, Wall, & Carter, 2005; Yuan & Woodman, 2010). On the basis of these results, we believe that as a concept IWB covers both intra- and extra-role behaviour.

In contrast to the literature on creativity, for example, no distinction is made between behaviour aimed at radical and incremental innovations in the IWB literature. Radical innovation refers to innovations that make a radical break with the past. For example, employees may propose to adapt the entire production structure or drastically change the organisational design. Incremental innovation, however, refers to less radical ideas that focus on improving existing products and processes. In the creativity literature, a plea was recently made to distinguish between both as they would have other antecedents (Gilson & Madjar, 2011; Madjar, Greenberg, & Chen, 2011). In the literature on IWB this distinction rarely made. We will therefore assume that IWB cover both radical and incremental innovations

## **7. Old wine in new bottles?**

In addition to a clear definition and conceptualisation, a concept in the social sciences must also have a clear added value in relation to other, already existing concepts (Osigweh, 1989). In other words, IWB should sufficiently differ from other closely related concept such as creativity, intrapreneurship, personal initiative, and others (see Table 2). In what follows, we discuss some popular concepts that are close to the IWB concept and treat their relationship with IWB.

Workplace creativity is traditionally defined by referring to Amabile (1996) or Woodman, Sawyer and Grifffen (1993, p. 293) as the '*creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system*'. Important here is the reference to something 'useful' and 'new'. New is here not defined in its relative meaning (new to a particular context), but in its absolute meaning. Copying good

practice from other departments or organisations does not fall under the definition of creativity, but does fall under the concept of innovation. Another point of divergence between IWB and creativity refers to the breadth of the concept. IWB explicitly includes all phases of the innovation process (idea generation - looking for support - introduction). Creativity, in contrast, focuses on the idea generation and idea development. Seeking support for the ideas or helping the implementation of the innovation consequently falls outside the scope of this concept. Where creativity in the workplace and IWB do overlap is in the useful character of novelty. In both cases it is assumed that the new product, process, procedure or service will (eventually) make a positive contribution to the organisation. Creativity at work, just like IWB, does not have an exclusive focus on intra- or extra-role behaviour. We can therefore say that creativity in the workplace is a possible, but not a necessary first step in the innovation process of employees. It is possible, because it relates to idea generation, but not necessary because ideas can be copied from other contexts in IWB.

A second concept that has recently received attention in the literature is the concept of 'intrapreneurship' (or corporate entrepreneurship). De Jong and Wennekes (2008, p. 4) define intrapreneurship as *'employee initiative from a lower position in the organisation to undertake something new, an innovation, which is created by subordinates without being asked, expected or perhaps even given permission by higher management to do so'*. Intrapreneurship focuses exclusively on extra-role behaviour of employees aimed at the introduction of innovations in the workplace. In addition, most literature on intrapreneurship (logically) focuses on entrepreneurial behaviour of employees: employees who develop great innovations with or without the knowledge or approval of management. Bosma et al. (2010) list several examples of intrapreneurship and refer to the creation of joint ventures, the discovery and development of new markets, and developing new products or services. Additionally, from the articles of Antoncic and Hisrich (2001, 2003), it appears that the concept of intrapreneurship focuses primarily on high impact innovations and leaves aside small innovations that are confined to the working role of an employee. Where intrapreneurship and IWB do match is in the focus on all kinds of innovations (products, processes, services, ...).

Organisational Citizenship Behaviour (OCB) refers to 'a set of presumably beneficial employee behaviours that are (1) discretionary in nature, and (2) not explicitly rewarded by the formal reward system' (Organ, 1988, p. 4). OCB is a very broad concept that refers to a range of employee behaviour as long as they are positive, voluntary, and not explicitly rewarded by the organisation. A distinction is often made between different types of OCB's. Organ et al. (2006) distinguished between seven dimensions: helping, sportsmanship, loyalty, obedience, individual initiative, self-development and civic virtue. Other authors distinguish between broad categories of organisational citizenship behaviour such as OCB's focused on

the organisation versus OCB's focused on the individual, or conservative versus change-minded OCB's (e.g. Marinova, Moon, & Van Dyne, 2010).

As a broad concept, OCB differs from IWB in some areas. First, OCB includes much more than employee behaviour focused on changes or innovations alone. Many of the dimensions of OCB are aimed at preserving the status quo in companies (conformity). Moreover, OCB focuses exclusively on extra-role behaviour of employees. The focus of OCB is also on small actions of employees that improve the general operation of the organisation. There is no mention about changes to products, nor is there any explicit reference to larger, radical changes. So OCB is not only broader than the IWB concept, but also fundamentally different. We therefore do not agree with the vision of Eisenberger et al. (1990) that the innovative behaviour of employees can be categorised as a sub-dimension of OCB. However, some of the sub-dimensions of OCB are very closely related to IWB. As such, Lepine and Van Dyne (2001, p. 326) define 'voice behaviour' ('constructive change-oriented communication intended to improve the situation') as a specific form of change-oriented OCB (Unsworth, 2001). But even here there is a distinction with IWB as voice behaviour focuses exclusively to the 'support seeking' dimension of IWB.

Personal Initiative (PI) is 'work behaviour characterised by its self-starting nature, its proactive approach and by being persistent in overcoming difficulties that arise in the pursuit of a goal' (Frese & Fay, 2001, p. 134). According to Frese et al. (1997), personal initiative covers four core elements: it is self-starting behaviour, proactive, determined when problems arise, and focused on outcomes that are positive for the company. The self-starting nature of personal initiative implies that the goals of behaviour are not explicitly specified by an external actor. The employee develops and defines himself the goals of his behaviour before or during the process. Since some employees, such as management members, have very broad job descriptions ('improve the operation of the company'), reference is made to the concept of psychological distance. If the executive is looking for solutions that are not in line with the normal solutions, which are not discussed and tried out in circles of other executives, one can speak of personal initiative. If, however, the executive takes the initiative to make well-known policy decisions, these actions are not categorised as personal initiative. In this second case, the psychological distance is namely limited (Frese et al., 1997). Personal initiative is in other words, extra-role behaviour, behaviour that goes beyond the job description of the employee (Crant, 2000; Frese & Fay, 2001; Rank, Pace, & Frese, 2004). In addition, personal initiative refers to proactive behaviour. This means that personal initiative is focused on preventing and anticipating problems. Determination, thirdly, refers to not giving up easily when obstacles are encountered. An employee, who gives up after an initial lukewarm or negative response from his supervisor, is not seen as someone with a lot of personal initiative. Finally Frese et al. (1997) refer to the positive outcomes for the organisation. Although personal initia-

tive often includes an aspect of rebellion towards the immediate supervisor, the goal (long-term) of the behaviour should be positive for the organisation.

Personal initiative and IWB have strong similarities. Both concepts relate to employee behaviour that is focused on the (presumed) positive results for the company. But there are important differences as well. In our opinion, personal initiative is both specific and broader than IWB. Personal initiative is more specific in two areas. First, personal initiative only focuses on 'self-starting' behaviour. Innovative initiatives that develop after a request or invitation from a higher level are not included in this definition, while they are included in the IWB concept. In addition, personal initiative focuses on the larger or radical innovations. The importance of the psychological distance has as a consequence that small innovations are not included in the concept of personal initiative. Personal initiative is, on the other hand, broader than IWB in some respects. For example, personal initiative is not only aimed at new and innovative initiatives. Personal initiative, according to the definition, can also mean that someone decides to better monitor a certain installed procedure without anybody asking him to do so. Such behaviour can be seen as personal initiative, but not as Innovative Work Behaviour. Additionally, Crant (2000) states that personal initiative, just as proactive personality, has a strong focus on personality traits. Personal initiative is consequently viewed as something that is not easily changed.

Taking Charge was launched by Morrison and Phelps (1999, p. 403). Taking charge *'entails voluntary and constructive efforts, by individual employees, to effect organisationally functional change with respect to how work is executed'*. Taking charge is explicitly focused on functional changes in the work, and voluntary contributions of the employee. Like IWB, it refers to positive change (Crant, 2000). Chiaburu and Baker (2006) see taking charge as a subtype of organisational citizenship behaviour that focuses specifically on functional change in an organisation. The authors therefore define taking charge explicitly as a form of extra-role behaviour. Parallel, Frese et al. (1997) state that the voluntary nature of taking charge is the equivalent of the self-running nature of personal initiative. In the definition of taking charge there is an explicit reference to a change in the way work is approached. It seems that workers' initiatives to produce other products or attract new customers are not included in this definition. We conclude that taking charge refers to voluntary (extra-role) behaviour that focuses specifically on functional changes to how the work is done. The concept is therefore not identical to IWB. IWB is broader as it not only focuses on extra-role behaviour, and since IWB relates to initiatives by employees that are about much more than only the organisation of work.

Finally, we refer to the concept Employee-Driven Innovation (EDI). EDI stands for 'the generation and implementation of new ideas, products, and processes developed by a single

employee or by joint efforts of two or more employees' (Høyrup, 2012, p. 7; Kesting & Ulhøi, 2010, p. 2). Høyrup (2012) and De Spiegelare et al. (2012) distinguish between different types of Employee-Driven Innovation depending on the role of the employees and the management. Employee-driven innovation of the first order refers to a bottom-up process in which the employee takes both the initiative for the innovation, develops it, and implements the innovation. Employee-driven innovation of the second order is a more mixed process in which the employees' initiative is taken over by the management to generalise the implementation. For EDI of the third order, the initiative lies with the management, but the workers are involved in the development and/or implementation of the innovation. Employee-driven innovation is closely related to IWB as it clearly covers all types of innovations, and it takes into account more or less the same dimensions in the analysis (initiative, development, implementation). The biggest difference is in the focus of the two concepts. Employee-driven innovation focuses on innovations as the observation unit, and thereby zooms in on the input of one or more employees. IWB, in contrast, focuses on the employee and considers to what extent his or her behaviour contributes to innovation in general.



Table 2 IWB and other concepts

|  | Innovative Work Behaviour | Creativity | Intrapreneurship | OCB | Personal initiative | Taking Charge | Employee-Driven Innovation |
|--|---------------------------|------------|------------------|-----|---------------------|---------------|----------------------------|
| <b>Focus</b>                           |                           |            |                  |     |                     |               |                            |
| Behaviour                              | x                         | x          | x                | x   | x                   | x             |                            |
| Personality                            |                           | x          |                  |     | x                   |               |                            |
| Innovations                            |                           |            | x                |     |                     |               | x                          |
| <b>Intra- vs. extra-role behaviour</b> |                           |            |                  |     |                     |               |                            |
| Intra-role behaviour                   | x                         | x          |                  |     |                     |               | (x)                        |
| Extra-role behaviour                   | x                         | x          | x                | x   | x                   | x             | x                          |
| <b>Dimensions</b>                      |                           |            |                  |     |                     |               |                            |
| Idea generation                        | x                         | x          | x                | x   | x                   | x             | x                          |
| Idea championing                       | x                         |            | x                | x   | x                   | x             | x                          |
| Idea implementation                    | x                         |            | x                | x   | x                   | x             | x                          |
| <b>Type of Ideas</b>                   |                           |            |                  |     |                     |               |                            |
| Small, incremental                     | x                         | x          |                  | x   | x                   | x             | x                          |
| Large, radical                         | x                         | x          | x                | (x) | x                   | x             | x                          |
| <b>Focus of Ideas</b>                  |                           |            |                  |     |                     |               |                            |
| Processes                              | x                         | x          | x                | x   | x                   | x             | x                          |
| Products                               | x                         | x          | x                |     |                     |               | x                          |
| Procedures                             | x                         | x          | x                | x   | x                   | x             | x                          |
| <b>Other</b>                           |                           |            |                  |     |                     |               |                            |
| Functional, not innovative behaviour   |                           |            |                  | x   | x                   |               |                            |

Table 2 gives a schematic representation of different concepts and some of their characteristics. This table indicates that there is a substantial degree of overlap between all concepts. IWB shares many of its characteristics with the other studied concepts. Yet IWB appears to be unique in different areas. IWB is in other words no old wine in new bottles, but differs from other already existing concepts. The uniqueness of IWB consists mainly of the fact that IWB is the only concept which focuses on employee behaviour that has to do with innovation in the broad sense of the word (all types, all phases).

## **8. Discussion**

The discussion of the IWB literature revealed the lack of an adequate definition and detailed conceptualisation of the IWB concept. On the basis of insights from empirical research on IWB and other concepts, we came to the conclusion that IWB is not just old wine in new bottles. The concept has a strong overlap with other concepts used in the literature, but is also characterised by a unique focus: employee behaviour related to innovation, of all types, and with respect to all phases. IWB is about intra- and extra-role behaviours aimed at both radical and incremental innovations; it is about generating ideas, seeking support for those ideas and implementing them in the workplace. IWB is in other words a broad concept with many subtypes and sub-dimensions.

The breadth of the innovative work behaviour concept is related directly to the breadth of the general concept of innovation. Just as research into innovation often makes a distinction between different types of innovation (process vs. product, radical vs. incremental), the IWB research should differentiate between different dimensions of IWB. The literature mainly considers the work of Kanter (1988), which identified the different phases of the innovation process. However, it is striking that researchers rarely manage to empirically distinguish these theoretical dimensions (only 7 of the 31 studies succeed in doing so). Such is not often the focus of these studies and there is also little or no statistical evidence found for the theoretically defined dimensions.

This can possibly be explained by the - unexamined - presence of alternative dimensions. As we have already mentioned several times, there is a large difference between innovative behaviour aimed at big, radical innovations, and small, incremental innovations (Gilson & Madjar, 2011; Madjar et al., 2011). In addition, the innovative behaviour of employees is strongly influenced by the extent to which such behaviour is expected from the organisation (Unsworth et al., 2005; Yuan & Woodman, 2010). These differences traverse the investigated dimensions regarding the phases of innovation. For example, certain aspects of idea implementation (assisting in innovation in the workplace) are seen as intra-role behaviour, while

others (systematic introduction of an innovation by the employee himself) are almost always extra-role behaviour. The same applies to the difference between radical and incremental innovations. Under the idea generation dimension, both employee behaviour focused on innovative problem solving and the more proactive search for new and better ways of working are included. These alternative dimensions traverse the dimensions of the various phases, making it difficult to statistically distinguish between them.

In the absence of a detailed conceptualisation of IWB, the empirical studies tend to focus on a single dimension IWB. In addition, they barely manage to statistically differentiate between the two theoretically proposed IWB dimensions. Further research should take into account the complexity of the IWB concept by distinguishing between different types of IWB. Depending on the research question, the focus can then be on (1) the difference in the phases of the innovation process, on (2) large or small innovations, or on the (3) intra-role or extra-role nature of IWB.

## **9. Conclusion**

Innovation is considered as an important determinant of future competitiveness by many policy makers and entrepreneurs. However, innovation is more than research and development and is often proposed, developed and implemented by employees. Partly because of this, the academic attention on the innovative contribution of workers is rising and a new concept was launched: 'Innovative Work Behaviour'. Despite the many empirical studies using this concept, the literature lacks a detailed definition and conceptualisation of IWB. In this article, we use the existing literature on IWB to develop a more appropriate definition. In addition, we compare the IWB concept with a range of other closely related concepts to assess the value and uniqueness of IWB.

On the basis of the available literature, we conclude that innovative work behaviour is about employee behaviour aimed at bringing about innovations. These innovations can be products, processes, procedures or ideas that are new and intended to benefit the relevant unit of adoption. Innovative work behaviour covers large and small, radical and incremental innovations and concerns not only the intra-role behaviour, but also the extra-role behaviour of employees.

Innovative work behaviour, as with the parent concept of innovation, is a broad concept and has a strong overlap with other concepts such as creativity in the workplace, intrapreneurship, organisational citizenship behaviour, personal initiative, taking charge and Employee-Driven Innovation. Just as the literature on innovation makes clear distinction between different types of innovation, the literature on IWB is mainly focused on different

dimensions of IWB. Given the conceptual and empirical uncertainty concerning the number and type of the IWB dimensions, future research could look for alternative dimensions. It can as such consider the difference between incremental vs. radical IWB, or intra-role vs. extra-role IWB.

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## Chapter 4 Mainstreaming innovation in Europe: Findings on employee innovation and workplace learning from Belgium

**Abstract:** The EU is striving for an 'Innovative Union'. Various case studies already hinted that the involvement of various types of employees is crucial for the organisational innovativeness. Using data from a large scale Belgian employee level survey in five industries, this article focuses on the question how 'mainstream' innovation is in Belgian firms and how this coincides with forms of Workplace Learning. Innovation mainstreaming here refers to the inclusion of various occupational groups in the innovation process. Findings suggest that innovation in most sectors, is an 'elite driven' process with only a limited involvement of lower level employees. Moreover, genuine Employee-Driven Innovations are a rarity. Nevertheless, the research also finds that Workplace Learning (job training and in-work learning opportunities) are potentially strong levers for employee innovation for all types of employees. Specifically providing in-work learning opportunities to technical workers could make innovation more mainstream in Europe.

**Keywords:** Employee-Driven Innovation, Innovation Mainstreaming, Innovative Work Behaviour, Workplace Learning

**This chapter is based on:** De Spiegelare, S., Van Gyes, G., & Van Hootehem, G. (2012). Mainstreaming Innovation in Europe: Findings on employee innovation and Workplace Learning from Belgium. *Lifelong Learning in Europe*, 17(4).

## 1. Introduction

Over 47% of the European innovative organisations mention intra-organisational sources as one of their main sources of innovation (Eurostat, 2008). Employees thus play a central role in the innovation process of organisations. If Europe is to become an 'Innovative Union' (European Commission, 2010), it should therefore search for ways to promote and develop further the innovative potential of employees and organisations.

One of the policy instruments put into place for this objective is the European program on Lifelong Learning (European Commission, 2010). Lifelong learning and more specifically Workplace Learning is intrinsically related to employee innovation. They are mutually reinforcing as Workplace Learning give employees the capacity and opportunity to explore opportunities for innovations. At the same time, being involved in an innovation process necessarily constitutes an element of learning and knowledge creation for the concerned employees (Ellström, 2010; Høyrup, 2010). This mutually reinforcing character of innovation and learning was further confirmed by research which found that the innovative behaviour of employees is primarily related to the degree of learning opportunities provided in a job (De Spiegelaere, Van Gyes, & Van Hootegem, 2012; De Spiegelaere, Van Gyes, Vandekerckhove, & Van Hootegem, 2012). These insights are shared by various researchers, and multiple case studies were performed on how to promote employee-driven innovation through Workplace Learning or through other mechanisms (Høyrup, Bonnafous-Boucher, Hasse, Lotz, & Møller, 2012).

There is nevertheless a striking lack of knowledge on how employee involvement in innovation is distributed in the economy. This article is the very first in presenting extensive survey data of employees in different sectors on their Innovative Work Behaviour (IWB) and experiences with Employee-Driven Innovation (EDI). In doing so, we develop the concept of 'Innovation Mainstreaming' which refers to an innovation regime in which all employees, of all hierarchies are on a regular basis engaged in innovative activities. Therefore we distinguish between different occupational groups and compare their innovative behaviour in the different sectors.

The article thus has a triple purpose. First it aims to introduce and develop the concepts of 'Innovation Mainstreaming' and 'Employee-Driven Innovation'. Second it uses survey data to identify sectoral differences in the mobilisation of employees in the innovation processes of firms. Third, the article relates the information on employee innovation to forms of Workplace Learning. Attention is in this regard paid to both practice-based learning (Ellström, 2010) and more formal types of learning.

The article starts with a general discussion of the various used concepts and the proposition of two main research questions. We continue with a description of the data and provide a lengthy discussion of the findings and the implications for both research and practice in which the relation with Workplace Learning is given special attention.

## 2. Literature

### 2.1 Innovation mainstreaming

The successful development and implementation of innovations depends on many factors. One of these factors is the active and constructive involvement of all the stakeholders in the process. Innovations should be developed, changed and initiated in all hierarchical levels of the organisation. As such, literature on 'continuous improvement', 'incremental innovation' (Harrington, 1995; Terziovski, 2002), and Employee-Driven Innovation (Høyrup, 2010) stresses the importance of small scale, employee initiated innovations which are crucial on their own and which stimulate the successful introduction of radical innovations (Robinson & Schroeder, 2004). As both routine manual and non-manual workers have high levels of tacit knowledge (Polanyi, 1966), they are in an ideal position to find the needed 'new combinations' (Schumpeter, 1934) of existing practices, which form the core of the innovations in organisations.

It is thus essential that innovation is not only a top-down process, a privilege of the management or some specialised department. Companies should be equally open for bottom-up innovation initiatives. Innovation should be an issue for all employees in the organisation, independent of the hierarchical position or work tasks. Innovation should thus be 'mainstream' in the organisational functioning and not 'exceptional'. Just as the concept 'gender mainstreaming' refers the introduction of a gender perspective in any policy domain, the concept '**Innovation Mainstreaming**' addresses the introduction of innovation in the work tasks of all employees, from all occupational groups. In Innovation Mainstreaming, employees of different kinds are on a daily basis engaged in innovative activities. Just as 'democratising innovation' (Hippel, 2005) refers to the full inclusions of the users in the innovation process, 'Innovation Mainstreaming' pleads for the full inclusion of the employees in the firms' innovation. Various firm level studies already stressed the importance of such an employee inclusion (Robinson & Schroeder, 2004) while individual level studies extensively covered the triggers for employee creativity and innovation (Axtell et al., 2000; Shalley, Zhou, & Oldham, 2004). No single research however took a more general, descriptive approach. Sectoral differences in the use of employee ideas in the innovation process are not covered by research. This article is the very first to study this subject. The first research question of this article is therefore:

*'How mainstream is innovation in different sectors? Are there important sectoral differences in the inclusion of employees in the innovation process?'*

This research question is addressed through a research in five different sectors with very different innovation profiles (Castellacci, 2008): the banking, the retail, the hotels and restaurants industry, the chemical industry and the sector of social work (social sector). In these sectors, different occupational groups are compared regarding their 'Innovative Work Behaviour' (IWB) (de Jong & Den Hartog, 2010; Janssen, 2003). IWB is defined as '*all employee behaviour directed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures, new to the relevant unit of adoption that are meant to significantly benefit the relevant unit of adoption*' (De Spiegelaere, Van Gyes, Vandekerckhove, & Van Hootegem, 2012). It thus covers behaviour directed at the development and introduction of both incremental and radical workplace innovations.

## **2.2 Employee-driven innovation**

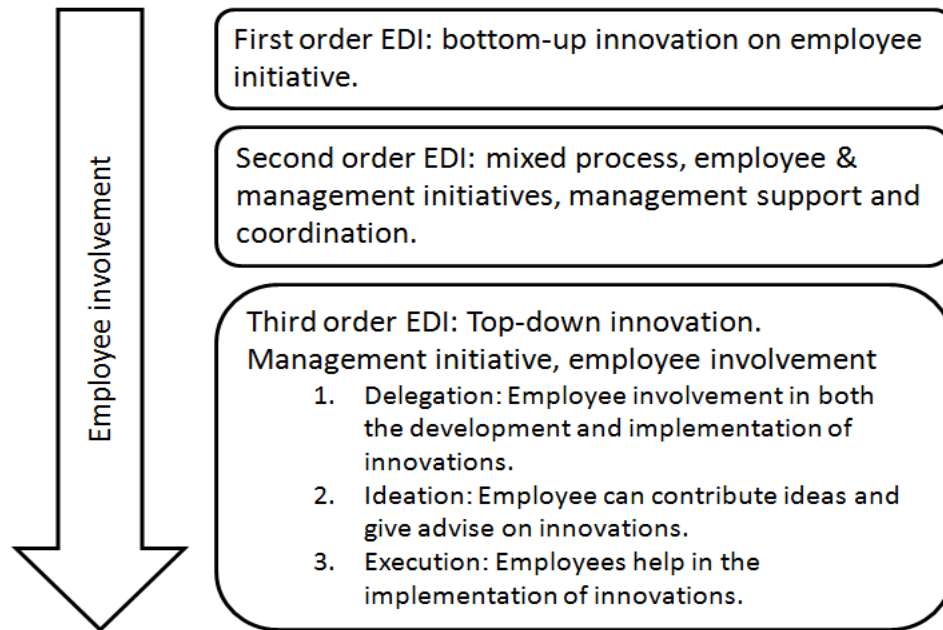
The concept of IWB is useful in comparing the innovative behaviour of employees in very different contexts. It nevertheless provides no information on the content and type of innovation activities in which the employees are engaged.

Therefore we refer to the literature on 'Employee-Driven Innovation' (EDI). EDI covers a broad range of employee activities regarding innovation. EDI can be a truly bottom-up, self-initiated employee activity, but can also cover more top-down activities in which the management invites employees to propose or develop innovative ideas. To better assess this reality, Hoyrup et al. (2012) proposed to distinguish between 3 orders of EDI. First order EDI refers to the truly bottom-up innovation processes initiated, developed and introduced on employee initiative. Second order EDI covers a more mixed reality in which the employee takes an initiative which is taken over by the management in order to systemise or generalise its introduction in the organisation. Third order EDI covers the innovations which are developed by employees on the invitation of the management. We here propose to further distinguish between three types of third order EDI called 'delegation', 'ideation' and 'execution', depending on the level of employee involvement.

1. **Delegation:** here, the employees are invited by the management to generate, develop and introduce innovations in the workplace. The management therefore gives a certain degree of autonomy to the employees over the whole innovation process.
2. **Ideation:** in ideation, the role of the employees is limited to proposing ideas and giving advice about workplace innovations. The management keeps control over the selection of the ideas and the actual implementation. Typical examples of ideation are suggestions schemes and brainstorm sessions.

3. **Execution:** in execution, the role of the employee is limited to the introduction of innovations on the work floor. Employees do not have any influence on the selection or development of the innovation but need to change existing work practices in order to integrate the new innovation on the workplace.

Figure 1 graphically illustrates these various types of EDI. We could discuss whether the 'execution' type of EDI can still be counted as 'Employee-Driven Innovation' as the role of the employee in the innovation process is very limited to nonexistent.



**Figure 1** Different types of EDI

Based on this conceptual framework we develop our second research question which focuses on the content of the EDI in different sectors:

*'How do employees innovate in different sectors? Are there important sectoral differences regarding the dominant type of EDI in different sectors?'*

### 3. Data & method

The data used in this article were collected in the context of the VIGOR project<sup>7</sup> on Innovative Work Behaviour. The sample consisted of Flemish, unionised workers from the five above mentioned industries. Respondents were contacted by interviewers which made appointments for face-to-face meetings in which the standardised survey was completed. As such,

<sup>7</sup> For more information on the VIGOR project: [www.vigorinnovation.com](http://www.vigorinnovation.com)

927 surveys were collected with an overall response rate of 49%, yet large differences in terms of response between industries were observed (see Table 1).

All measures included used a 7 point Likert scales ranging from 'totally agree' to 'totally disagree' except when mentioned otherwise. **Innovative work behaviour**, was measured using an adaptation of the questions used by De Jong & Den Hartog (2010). Respondents indicated how much a certain characteristic occurred in their job, ranging from 'very rarely' to 'very frequent'. Examples are: '*finding original solutions for work related problems*' and '*developing innovative ideas into practical applications*'. **Employee-driven innovation** was measured using one closed and two open questions. The first closed question distinguished between the employees which were involved with innovative processes in their work, and those who were not. The two open questions next treated the content of the innovation process and the role of the employee in this process. Using this information, the answers were coded using the previously developed types of EDI. As such, employees which mentioned own initiatives were coded as having performed first or second order EDI. Employees which mentioned ideation and/or the executive tasks were classified in one of the three categories of third order EDI. Some were recoded as 'non-EDI' if the given examples didn't include any employee contribution.

All employees were asked to indicate their profession and the tasks they generally perform. Based on that information, 4 digit ISCO08 codes were attributed to the respondents. These codes were consequently recoded in ISCO88 codes (Ganzeboom & Treiman, 2012) and together with the information on the supervisory status of the employee attributed to ESeC (*European Socio-economic Classification*) categories (Harrison & Rose, 2006).

Table 1 shows the total and industry response rates, together with more information on the analysed results. The overall distribution over industries and over occupational groups is quite satisfactory. Only in the hotels & restaurants, the number of employees belonging to the 'salaried' and 'lower grade white-collar' categories is relatively low, yet this resembles the actual distribution in the industry. The same remark holds for the chemical industry with a relatively low degree of 'lower grade white-collar workers'. In the interpretation of the results, these relatively low absolute figures are taken into account.

To study the research questions, the mean scores on the various indicators of innovative behaviour were computed. Further, a series of ANOVA tests were performed in order to assess the differences regarding innovative behaviour between industry and occupational groups.

**Table 1**      **Response level - Sample**

|                           | <b>Salariat</b> | <b>Intermediate</b> | <b>Lower grade<br/>white-collar</b> | <b>Lower Tech-<br/>nical workers</b> | <b>Total</b> | <b>Response<br/>rate, in %</b> |
|---------------------------|-----------------|---------------------|-------------------------------------|--------------------------------------|--------------|--------------------------------|
| Banking                   | 92              | 42                  | 45                                  | n.d.                                 | 179          | 53                             |
| Retail                    | 23              | 43                  | 78                                  | 36                                   | 180          | 46                             |
| Hotels and<br>restaurants | 8               | 44                  | 12                                  | 91                                   | 155          | 38                             |
| Chemical                  | 55              | 61                  | 13                                  | 66                                   | 195          | 49                             |
| Social sector             | 81              | 71                  | 16                                  | 28                                   | 196          | 61                             |
| <b>Total</b>              | <b>259</b>      | <b>261</b>          | <b>164</b>                          | <b>221</b>                           | <b>801</b>   | <b>49</b>                      |

## 4. Results

### 4.1 Innovation mainstreaming

Table 2 shows the means, standard deviation and ANOVA results of the innovative behaviour of employees in the 5 researched sectors. By focusing on the first column, the **overall importance** of employee innovation in a certain sector can be assessed. We observe that employees are relatively more innovative in the chemical industry and in the social sector, in comparison with the other researched sectors. The very low scores of the employees in the hotels and restaurant sector are further striking.

The 'all sectors' row provides us with information on the overall distribution of innovative behaviour depending on the occupational status of the employee. As we could expect, higher status employees belonging to the salariat or the intermediate group of employees perform significantly more innovatively than other employees. Innovative behaviour thus seems to increase with occupational status.

Next, we focus on the intra-sectoral differences between employees to measure the degree of 'Innovation Mainstreaming'. In sectors with relatively small differences, innovative activities are (more) equally distributed among occupational groups. Innovation is thus not an exclusive activity of the higher status employees. In these sectors we can speak of a certain degree of 'Innovation Mainstreaming'. As such, the differences in the chemical industry, the hotels and restaurants and the banking sectors are the smallest. Regarding the banking sector, this can be explained as there were no lower technical and routine employees included in the sample of the banking sector. This occupational group tends to show the least innovative behaviour. Their exclusion thus artificially reduces the difference in the banking sector. In the other two sectors (retail and social sector) the differences between occupational groups are relatively high. In these sectors, innovation seems to be a specialised task of the higher

occupational groups (salarial and intermediate). We can thus conclude that the chemical industry, together with the banking sector, is the sectors in which innovation is the most 'mainstream'. In the other sectors, innovation is more unequally distributed.

**Table 2** Innovation mainstreaming

|                        | All employees |      | Salarial |      | Intermediate |      | Lower grade white-collar |      | Lower Technical workers |      | Largest difference | ANOVA   |
|------------------------|---------------|------|----------|------|--------------|------|--------------------------|------|-------------------------|------|--------------------|---------|
|                        | M             | SD   | M        | SD   | M            | SD   | M                        | SD   | M                       | SD   |                    | p-value |
| Banking                | -0.09         | 0.79 | 0.13     | 0.80 | -0.30        | 0.69 | -0.25                    | 0.70 | n.d.                    | n.d. | 0.44               | <0.01   |
| Retail                 | -0.14         | 0.90 | 0.52     | 0.73 | 0.33         | 0.77 | -0.37                    | 0.87 | -0.69                   | 0.87 | 1.21               | <0.01   |
| Hotels and restaurants | -0.25         | 1.07 | 0.16     | 0.80 | 0.39         | 0.88 | -0.36                    | 1.17 | -0.16                   | 0.76 | 0.76               | <0.01   |
| Chemical               | 0.17          | 0.85 | 0.44     | 0.76 | 0.38         | 0.87 | 0.30                     | 0.60 | -0.12                   | 0.83 | 0.56               | <0.01   |
| Social sector          | 0.25          | 0.95 | 0.65     | 0.79 | 0.22         | 0.83 | -0.07                    | 0.91 | -0.52                   | 0.99 | 1.17               | <0.01   |
| All Sectors            |               |      | 0.39     | 0.81 | 0.22         | 0.85 | -0.25                    | 0.85 | -0.46                   | 0.96 | 0.85               | <0.01   |
| ANOVA p-value          | <0.01         |      | <0.01    |      | <0.01        |      | 0.15                     |      | 0.04                    |      |                    |         |

## 4.2 A taxonomy of innovation mainstreaming

Given these results on both the overall importance of employee innovativeness and the degree of Innovation Mainstreaming, a taxonomy of 'sectoral employee innovation regimes' can be developed. In Figure 2, this is graphically illustrated. On the vertical axis, the sectors are positioned depending on the overall importance of employee innovative behaviour; on the horizontal axis the positioning depends on the degree of Innovation Mainstreaming observed in the sectors. As such, four different 'sectoral employee innovation regimes' are identified. The first innovation regime combines a high importance of overall employee innovative behaviour with large differences between occupational groups. This regime is named '**specialist innovation**' as innovative behaviour in these sectors is a specialised task of the higher status occupational groups such as the salariat. Lower status occupational groups are significantly less involved with innovative behaviour. In our study, the social sector was identified as having an 'elite innovation' regime.

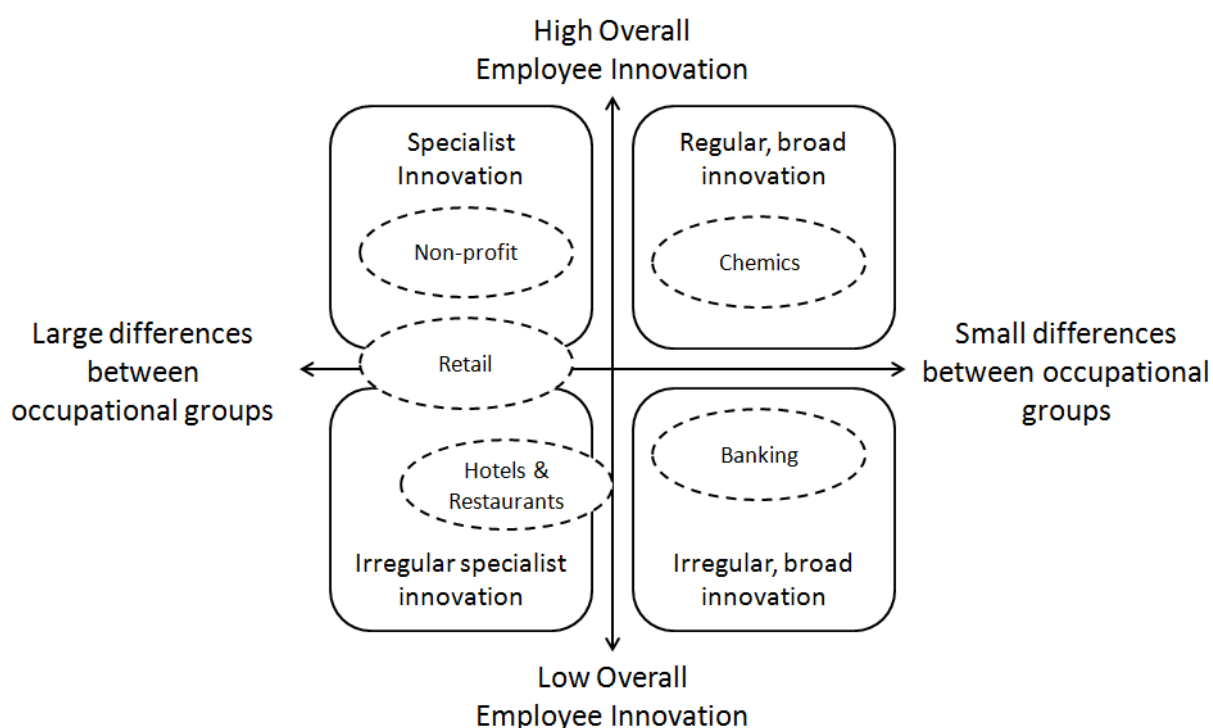
The second quadrant is characterised by high overall employee innovativeness and small differences between occupational groups. This employee innovation regime is termed '**regular, broad innovation**' as innovative behaviour is an everyday reality for both high and low status occupational groups. An example of a sector with such a regime is the chemical industry.



The third quadrant is named the '**irregular, broad innovation**' type of employee innovation regime. These industries, such as the banking industry in Flanders, have generally low overall degrees of employee innovativeness, yet small differences between occupational groups. Innovative behaviour is not a day-to-day practice of employees, yet this is true for all occupational groups.

The fourth quadrant is the '**irregular, specialist innovation**' quadrant in which we can (to a certain extent) position the hotels & restaurants industries in Flanders. In this quadrant, the overall innovativeness of employees is low, yet large differences exist depending on the occupational group of the employees. Innovation here is a privilege of the salariat, yet not a priority. This holds true for the hotels & restaurants industry, yet the fact that the intermediate employees in this industry demonstrate (not statistically significant) higher degrees of incremental and radical creativity than the salariat makes it not fit perfectly in this quadrant.

Innovativeness in the **retail** industry doesn't fit any of the four quadrants perfectly and is positioned between the 'specialist innovation' quadrant and the 'irregular specialist innovation' quadrant.



**Figure 2** Sectoral employee innovation regimes

This taxonomy answers our first research question on how mainstream innovation is. Obviously, innovation is still largely a privilege of the higher status occupational groups in all sectors. Nevertheless, in one sector, the chemical industry, the innovative potential of lower level

occupational groups is effectively mobilised. Here, we can speak of a certain degree of Innovation Mainstreaming.

### 4.3 Employee-driven innovation

The information on the innovative behaviour of employees gives us a view on general importance of employee innovation in the studied sectors, yet doesn't give insight in the content and the type of innovative activities of employees. Hence, we use the previously developed 'Employee-Driven Innovation' concept to get a grasp of the reality of employee innovation in the field. Table 3 shows the proportion of employees which were included in an innovation process in their organisation. In line with the previous observations, employees in the chemical industry (73%) and in the social sector (69%) are relatively more involved in innovation processes than employees in the other sectors.

**Table 3** Employee involvement in innovation, in %

|                        | <b>Yes</b> | <b>No</b> |
|------------------------|------------|-----------|
| Banking                | 64         | 36        |
| Retail                 | 51         | 49        |
| Hotels and restaurants | 44         | 56        |
| Chemical               | 73         | 27        |
| Social sector          | 69         | 31        |
| <b>Total</b>           | <b>61</b>  | <b>39</b> |

Table 4 presents the types of EDI by sector. EDI of the first and second order were taken together as their frequencies were very limited. Most EDI were from the third order which refers to employee innovations occurring on a management initiative. Employee innovative initiatives are thus rather rare or were rarely reported by the respondents. Further, most frequently, third order EDI took the form of 'delegation' or 'execution'. Differences between the sectors here are in line with the earlier observations on IWB. Both in the chemical industry and in the social sector, the observed EDI is from a relatively higher order with over 35% of the respondents declaring to be involved in 'delegation' or higher order types of EDI.

**Table 4** Types of employee-driven innovation by sector, in %

|                        | 1st or 2nd order EDI | 3rd order EDI |           |           |           |
|------------------------|----------------------|---------------|-----------|-----------|-----------|
|                        |                      | Delegation    | Ideation  | Execution | No EDI    |
| Banking                | 1                    | 18            | 14        | 28        | 38        |
| Retail                 | 1                    | 18            | 11        | 20        | 50        |
| Hotels and restaurants | 3                    | 19            | 10        | 12        | 58        |
| Chemical               | 3                    | 32            | 11        | 26        | 28        |
| Social sector          | 6                    | 31            | 14        | 17        | 31        |
| <b>Total</b>           | <b>3</b>             | <b>24</b>     | <b>12</b> | <b>21</b> | <b>40</b> |

Table 5 further shows the types of EDI by occupational group. As expected, the salariat is generally more involved in EDI from a higher order. Nevertheless, also here only 5% of the respondents declared that they took a proper innovative initiative. Lower occupational status groups tend to be less involved in EDI in general and their EDI is from a lower order. Nevertheless, the difference between the lower grade white-collar employees and the lower grade technical and routine workers is remarkable. Although limited, relatively more respondents from the lowest status occupational group declared to be engaged with EDI from the first or second order and with the 'delegation' type of EDI.

**Table 5** Types of employee-driven innovation by occupational group, in %

|                          | 1st or 2nd order EDI | 3rd order EDI |           |           |           |
|--------------------------|----------------------|---------------|-----------|-----------|-----------|
|                          |                      | Delegation    | Ideation  | Execution | No EDI    |
| Salariat                 | 5                    | 38            | 14        | 20        | 22        |
| Intermediate             | 4                    | 30            | 9         | 22        | 34        |
| Lower grade white-collar | 0                    | 12            | 11        | 24        | 53        |
| Lower Technical workers  | 2                    | 14            | 10        | 16        | 59        |
| <b>Total</b>             | <b>3</b>             | <b>26</b>     | <b>11</b> | <b>21</b> | <b>40</b> |

\* The small differences in the 'total' row between Table 4 and table5 are due to more missing values in the Table 7 data.

Building on these survey results we can answer our second research question on 'how employees innovate'. From the survey findings it seems that a large proportion of employees were never really involved in any kind of innovation process. Further, most employees who were involved in innovation processes did this in on the initiative of the management. Self-initiated employee innovation is only a marginal phenomenon in most sectors and in most occupational groups.

## 5. The importance of workplace learning for EDI

Workplace Learning can be defined as all 'learning that takes place in and through the workplace and derives its purpose from the context of employment' (Evans, Hodkinson, Rainbird, & Unwin, 2006). As such, Workplace Learning refers to both informal, 'on-the-job learning' through a challenging job content and more formal learning through work related training.

Employee innovation and Workplace Learning are intrinsically linked to each other. They are mutually reinforcing and largely dependent on each other. Employee learning (both formal and informal) can trigger employees to change work practices and engage in EDI. At the same time, every EDI leads to a form of Workplace Learning or knowledge development (Ellström, 2010; Høyrup, 2010). This learning can take the form of formal training, yet when the innovation has a more bottom-up character (first or second order EDI), the learning will take the form of 'practice based learning' (Ellström, 2010) or even 'self-initiated learning' (Ellinger, 2004). Although the concepts of employee innovation and Workplace Learning are intrinsically linked to each other, they are not interchangeable. Where EDI almost automatically leads to Workplace Learning, the inverse relation is less direct and automatic.

In the following section we analyse the relation between these two aspects of Workplace Learning on the one hand and innovative behaviour and EDI on the other hand. The analyses are limited to the study of the simple bivariate relations. For more complex analyses we refer to Chapter 4 which study these subjects in more detail.

In the survey, questions regarding both types of Workplace Learning (in-work learning and job training) were included. In-work learning opportunities were assessed through a series of questions which referred to the degree in which respondents were able to develop their occupational skills and knowledge through the exercise of their job. For job training, the respondents were asked whether they enjoyed a company financed training (one or more than one) in the last year. The survey further asked whether the training was related to innovation or changes in the workplace.

Table 6 presents the correlation coefficients between the two variables on Workplace Learning opportunities and IWB. As expected, we find a strong positive correlation between the two variables. The relation is the strongest for lower technical workers and the salariat.

**Table 6 Learning & IWB – Correlations**

| <b>IWB</b>             | <b>Total</b> | <b>Salariat</b> | <b>Intermediate</b> | <b>Lower grade white-collar</b> | <b>Lower Technical &amp; Routine</b> |
|------------------------|--------------|-----------------|---------------------|---------------------------------|--------------------------------------|
| Learning Opportunities | 0.46*        | 0.45*           | 0.30*               | 0.29*                           | 0.46*                                |

\* Sign at the  $\alpha:0.01$  level.

Table 7 presents next first the difference in mean score on IWB between respondents who received training or not. Secondly it distinguishes between respondents who received a training related to innovation or change and those who received a training which had nothing to do with innovation or change. Parallel with the previous observations we see that employees who received a training are significantly more innovative than employees who didn't. Only for the group of intermediate employees, the difference is not statistically significant. The difference is particularly marked for lower grade employees. The content of the training also seems to matter in terms of innovative behaviour. Employees who received an innovation or change-related training are significantly more innovative than employees who received a different training. The fact that the difference is not statistically significant for the two groups of lower grade employees is mostly due to the small number of respondents that could be included in the analysis (because most employees in those categories didn't receive any training).

**Table 7 Difference in IWB - Training**

|   | <b>Total</b> | <b>Salariat</b> | <b>Intermediate</b> | <b>Lower grade white-collar</b> | <b>Lower Technical &amp; Routine</b> |
|---|--------------|-----------------|---------------------|---------------------------------|--------------------------------------|
| Training (0/1)                              | 0.40*        | 0.16*           | 0.14                | 0.35*                           | 0.32 p                               |
| Innovation or change related training (0/1) | 0.47*        | 0.43p           | 0.43*               | 0.27                            | 0.33                                 |

\* Sign at the  $\alpha:0.01$  level; p sign at the  $\alpha:0.05$  level.

These bivariate results suggest that Workplace Learning (in-work learning opportunities and job training) are potentially powerful levers for employee innovation. The IWB of lower ranked occupational groups is particularly affected by general trainings, while specific change related trainings contribute more to the IWB of higher ranked occupational groups. This suggests that the previously mentioned 'elite'-character of innovation can be effectively countered using both on-the-job learning and more formal job related training. These analysis are nevertheless only bivariate and based on cross-sectional analysis. We are therefore unable to establish strong causal relations.

## 6. Conclusion

Various case study researches indicated that fostering Employee-Driven Innovation is a crucial asset for successful innovation in firms. Although one could suspect companies to learn from these findings, and fully mobilise the innovative potential of their employees, the reality is more gloomy. Having introduced the concept of 'Innovation Mainstreaming' as the inclusion of innovation in the daily work of employees, from all occupational groups, we investigated sectoral patterns of Innovation Mainstreaming. Based on this study, we conclude that in most sectors employees hardly contribute to innovation. Innovation is still mostly the privileged task of a certain occupational group in the firm. Lower level employees, both blue- and white-collar are significantly less engaged in innovative activities. Sectors nevertheless differ and the chemical industry is the sector in which employees of different kinds are more equally involved in innovative activities.

The article also studied the type of EDI employees are engaged in. From this research we conclude that genuine EDI (first or second order) is a rarity. Most employees are involved in third order EDI in which the management takes the initiative and invites employees to contribute. Again, first and second order EDI happens mostly by higher level white-collar employees and in sectors in which innovation is part of the job requirement of the employees.

This research nevertheless also shows that Innovation Mainstreaming is feasible and lower level employees can be effectively mobilised for innovative activities as is shown by the chemical industry. Employee-driven innovation is a reality in all studied sectors and in almost all occupational groups. Although rare, employees do take self-initiatives for improving and developing their work organisations and it is a matter for policy and management to foster and support this behaviour.

As previous studies on the triggers of employee innovation showed that Workplace Learning is a crucial, if not the most crucial, antecedent of IWB (De Spiegelaere, Van Gyes, & Van Hootegem, 2012), this article further focuses on the relation between employee innovation and Workplace Learning. From the analysis, we conclude that both formal and informal practice-based learning are closely related to employee innovativeness. First and foremost, the job content (the learning opportunities in a job) asserts itself as particularly related to IWB. Second, formal training is also strongly related to IWB of employees of different occupational groups. Here, lower level employees are principally affected by general formal trainings, while the IWB of higher level employees seems more strongly related to specific, change oriented training schemes.

Policy makers can learn from these analysis as they can help in focusing the policy interventions on certain populations of employees or sectors. Further, this article finds support for the policy orientation of the EU on Workplace Learning. Yet, the article also stresses the importance of a EU policy focusing at social or workplace innovations which should increase quality of the work, and thus the learning opportunities enjoyed by employees in their work context (Van Hootegem, 2000).

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## Chapter 5 Labour flexibility and innovation, complementary or concurrent strategies? A review of the literature

**Abstract:** The European strategy for growth has a twofold aim: to become an innovative union and to enhance labour flexibility. Yet, few have addressed the question of whether these two strategies are compatible or concurrent. Through a review of the literature, this article addresses this question by focusing on different types of labour flexibility (functional, contractual and financial), and two types of innovation outcomes: Employee-Driven Innovation (EDI) and organisational innovativeness. Using insights from different research traditions, sound evidence is found for a positive relation between different forms of functional flexibility and both EDI and organisational innovation. This is nevertheless not so for contractual and financial flexibility. Indications are found that these types of labour flexibility are potentially negative for both EDI and organisational innovation. Yet, trends in the European labour market and EU backed policies do not focus on enhancing functional flexibility, but rather aim to increase contractual and financial flexibility.

**Keywords:** Employee-driven innovation, flexible labour, flexibility, innovation

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# Labour flexibility and innovation, complementary or concurrent strategies? A review of the literature

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**Stan De Spiegelaere, Guy Van Gyes and  
Geert Van Hootehem**

KU Leuven, Belgium

## Abstract

The European strategy for growth has a twofold aim: to become an innovative union and to enhance labour flexibility. Yet, few have addressed the question of whether these two strategies are compatible or concurrent. Through a review of the literature, this article addresses this question by focusing on different types of labour flexibility (functional, contractual and financial), and two types of innovation outcomes: employee-driven innovation (EDI) and organizational innovativeness. Using insights from different research traditions, sound evidence is found for a positive relation between different forms of functional flexibility and both EDI and organizational innovation. This is nevertheless not so for contractual and financial flexibility. Indications are found that these types of labour flexibility are potentially negative for both EDI and organizational innovation. Yet, trends in the European labour market and EU backed policies do not focus on enhancing functional flexibility, but rather aim to increase contractual and financial flexibility.

## Keywords

Employee-driven innovation, flexible labour, flexibility, innovation

## Introduction

As Europe finds itself in crisis, policy makers at the EU level develop policy frameworks that should lead Europe out of the crisis and towards so-called ‘sustainable growth’. In the Europe 2020 strategy, the focus is on innovation and flexicurity. The first EU flagship initiative aims to create an ‘innovative union’ through enhanced research and development and the creation of multiple partnerships. The flexicurity agenda is framed in the ‘agenda for new skills and jobs’, which includes policy directions aiming to increase

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## Corresponding author:

Stan De Spiegelaere, KU Leuven, Parkstraat 47, Box 5300, Leuven, 3000, Belgium.  
Email: stan.despiegelaere@kuleuven.be

labour flexibility (Wilthagen and Tros, 2004). In the EU Commission's Green Paper *Modernizing Labour Law to Meet the Challenges of the 21st Century*, an insight is given into how the EU sees the interplay between innovation and labour flexibility:

European labour markets need to be both more inclusive and more responsive to innovation and change. ... Legal frameworks sustaining the standard employment relationship may not offer sufficient scope or incentive to those on [a] regular permanent contract to explore greater opportunities for greater flexibility at work. (European Commission, 2006: 9)

Both the policies promoting innovation and labour flexibility aim to increase the competitiveness of the European economies. Yet, whether these strategies are mutually reinforcing, compatible, independent or even counteracting is a question which is rarely posed. It is unclear whether labour flexibility and innovation are two sides of the same coin or two different and opposing strategies. This question is nevertheless crucial given the continued pressure from the EU on the member states to implement labour flexibility and at the same time stimulate innovation. As policy strategies should be internally coherent, clarity should exist on whether labour flexibility offsets or stimulates innovation efforts.

Various articles have already covered aspects of this question and studied the relation between innovation and labour flexibility practices. Yet, most articles treat only very specific parts of the labour flexibility–innovation relation and concentrate on only one concrete level of analysis. As such, labour economists frequently discuss the relation between employment regulation and innovation. Organizational sociologists cover the relation between the use of flexible labour practices and organizational innovation while organizational psychologists concentrate on the link between these practices and employee creativity. This article aims to bring these very different streams in the literature together, in order to get a more general view on the basic research question: 'How does labour flexibility affect innovation?'

For this purpose we discriminate between three different types of labour flexibility, namely functional, contractual and wage flexibility. The relation between these types of labour flexibility with 'employee-driven innovation' (EDI) on the one hand and organizational innovation on the other is discussed in detail based on a literature review. In the first part, we introduce the labour flexibility, EDI and organizational innovation concepts and illustrate briefly their importance for economic competitiveness. In the second part we review the literature on the relation between the types of labour flexibility and EDI. The third part treats the labour flexibility–organizational innovation relation. We end with a discussion on the policy implication of these review findings.

## Review methodology

This article was based on an in-depth scientific literature review. The search for appropriate literature was performed using the EBSCOhost search engine, the web of science and Google Scholar. The search terms used were 'pay', 'wage', 'flexible wage', 'contingent employment', 'non-standard contract', 'innovation', 'IWB [innovative work behaviour]',

‘employee driven innovation’, ‘organizational innovation’, ‘labour flexibility’, ‘functional flexibility’, ‘contractual flexibility’, ‘financial flexibility’ and ‘wage flexibility’, ‘skills’, ‘task variety’ and others, in various combinations. Only peer-reviewed journal papers were taken into account, together with official reports from institutions such as the ILO, the OECD or the EU. No working papers or congress papers were selected for the literature review. Frequently, the topics under study in this research were not the topic of the articles. As the field of this literature review is broad and includes very different streams of socioeconomic research, special attention was paid to finding review articles and meta-analyses on the topics and the investigation of their reference lists (e.g. Hammond et al., 2011; Shalley and Gilson, 2004).

### **Labour flexibility, (employee-driven) innovation and competitiveness**

Both innovation and labour flexibility are broad terms. Labour flexibility refers to the ease with which the disposition of labour power can be adjusted to ever changing demands. Authors have distinguished between a multitude of different kinds of flexibility, depending on the content, the viewpoint, the level of analysis or their aims (Furaker et al., 2007). Here we analyse labour flexibility with a concentration on the content (what is flexible) and thus do not examine the question for whom the flexibility scheme was installed. We distinguish between three different kinds of labour flexibility: functional, contractual and wage flexibility. Although these concepts were originally conceived as organizational level attributes, we here try to translate and apply them to individual, organizational and macro-level research.

First, *functional flexibility* refers to the degree in which companies can swiftly redeploy their staff in various functions to meet changing demands (Atkinson, 1994). According to Benders (1990) this can be achieved in principally two ways: first by multi-skilling employees or implementing forms of job rotation; and second by deskilling the job functions in order to increase the interchangeability of employees. In the context of this study we only focus on the first type of functional flexibility, as is done by most researchers in the field (Arvanitis, 2005; Cordery et al., 1993; Kalleberg, 2001; Martínez-Sánchez et al., 2009; Michie and Sheehan, 2003; Smith, 1997). With regard to the organizational level, focus here is on the organizational design and the implementation of HR practices that increase functional flexibility (e.g. job rotation, team work, participation). With regard to the individual job level, the concept of functional flexibility tends to be described as ‘the capacity of an employee to work across traditionally distinct occupational boundaries’ (Cordery et al., 1993: 705) or ‘the ability to perform a variety of jobs and participate in decision-making’ (Kalleberg, 2001: 479). This capacity, or ability, of the employees is partly dependent on, first, the organizational structures (such as job rotation), second the variety of skills of the employee and third on how the individual job is designed and shaped. This last aspect refers to the degree of autonomy which individual workers have in their work (Beugelsdijk, 2008). This autonomy enables the workforce to be redeployed swiftly and smoothly between activities and tasks. On the macro level, research has rarely included variables related to functional flexibility. Nevertheless, the studies that did aggregate variables of



**Table 1.** A summary of the three types of labour flexibility.

|                           | Functional flexibility                       | Wage flexibility                                    | Contractual flexibility   |
|---------------------------|--|---|---|
| Organizational psychology | Autonomy, multi-skilling and job rotation    | Flexible reward                                     | Job insecurity, psychological contract  |
| Organizational sociology  | HPWS, team work, job rotation, participation | Individual and collective flexible reward practices | Contractual relation, use of non-standard employment relationships in companies |
| Labour economics          | Aggregation of the organizational data       | Aggregation of the organizational data              | Labour regulation, industrial relations characteristics                         |

functional flexibility to the macro level found very interesting results (Lorenz and Valeyre, 2005).

Second, wage flexibility covers the degree to which the salary of employees changes over time, depending on economic, company or individual performance. Organizational psychology literature covers this subject by referring to ‘reward’ and examining its relation to employee creativity. Organizational sociology has mostly studied flexible pay policies in the context of the high-performance work systems (HPWS), while labour economists have rarely covered this theme.

Third, contractual flexibility is more complex. Contractual flexibility addresses the degree of flexibility employers and employees face regarding the employment contracts. On the macro level this term covers the rigidity of the hiring and firing regulations, and the regulations on using temporary, part-time or agency employment contracts. On the organizational level this term refers to the relative use of these non-standard contractual relations in a given company and on the individual level contractual flexibility refers to the specific contract under which a employee is employed. Other kinds of labour market flexibility such as locational or working time flexibility are not covered in this study. A summary of the three types of labour flexibility and their relation to the various literature streams covered can be seen in Table 1.

Innovation is an equally complex concept. Traditionally authors refer to different kinds of innovation such as radical and incremental innovation, or process, product and organizational innovation. Other authors such as Jensen et al. (2007) distinguish between different modes of innovation: the STI (science, technology and innovation) mode and the DUI (doing, using and interacting) mode. In researching the relation between labour flexibility and innovation we focus *first* on the effect of labour flexibility practices on so-called ‘employee-driven innovation’ (EDI) which refers to innovations developed and implemented principally on employees’ initiative and not necessarily with support or even knowledge of the management (see Høyrup, 2010; Kesting and Ulhøi, 2010). This concept thus encompasses all bottom-up innovative initiatives. The EDI concept therefore comes close to concepts from industrial and managerial psychology referring to ‘workplace creativity’ (Backer, 1992) or ‘innovative work behaviour’ (Janssen, 2000). Our *second focus* is on general organizational innovation, which includes both managerial and employee-driven innovation and encompasses product, process or organizational design (Damanpour, 1991).

### *Labour flexibility and employee-driven innovation*

Research into the drivers of employee innovativeness generally focuses on the importance of variables such as leadership, personality, corporate culture, etc. (Shalley and Gilson, 2004; Zhou and Shalley, 2003). Yet, this industrial psychology and managerial literature also uncovered important relations between functional, contractual and wage flexibility and EDI.

Functional flexibility as a concept is only rarely used in the industrial psychology literature. As discussed above, we here approach individual job level functional flexibility with a focus on (1) the presence or absence of job rotation schemes, (2) the skill variety of employees and (3) the capacity of employees to swiftly redeploy their labour between activities and tasks (autonomy).

In job rotation schemes, employees are frequently allocated different jobs in the organization in an attempt to increase their knowledge of the production process, keep them motivated and increase their capabilities. We couldn't find a single study which made a direct link between job rotation schemes and employee creativity or innovativeness. On the company level, Beugelsdijk (2008) studied the relation between job rotation and innovation using a stratified sample of 988 firms of which the director or HR manager were subjected to a face-to-face interview. He couldn't find a significant relation between job rotation and innovation. He explained this as his data being unable to distinguish between job rotation according to the functional area of the employee and job rotation between otherwise disconnected people. Where the first will increase the employee's relevant knowledge and skills needed for workplace innovation, the second increases the skills of the employee, but not necessarily the 'relevant skills'.

Second, more studies are found that make the link between the multi-skilling of employees and their creativity or innovativeness. As innovation is essentially the finding of 'new combinations', having a broad spectrum of skills would enhance the ability of finding such new combinations (Amabile et al., 1996; Shalley et al., 2004; Zhou and Shalley, 2003). More recent empirical work by Dorenbosch et al. (2005) based on a sample of 132 employees from a local government organization and a study by Chen et al. (2011) based on a single company sample of 245 employees, confirmed this positive relation between skill variety (or multifunctionality) and creativity (or innovative work behaviour).

Third, regarding job autonomy, both managerial and psychological research has studied the relation between such job characteristics and employee creativeness thoroughly and finds almost consistently positive relations. Three recent review articles conclude generally the same: employee innovativeness is highly dependent on the character of the job (Hammond et al., 2011; Shalley and Gilson, 2004; Shalley et al., 2004). Moreover, the meta-analysis of Hammond et al. (2011) identified job-related variables such as job complexity, autonomy and role expectations as the most strongly related to employee innovation. As most studies are based on cross-sectional designs, the direction of the causal relation is unknown, but clearly, functional flexibility and EDI are two sides of the same coin.

The relation between contractual flexibility and EDI is less popular in research. Indeed, the three aforementioned review articles on employee innovativeness do not



even mention the relation with job security or contractual relation (Hammond et al., 2011; Shalley and Gilson, 2004; Shalley et al., 2004). Research on the relation between contract types and organizational citizenship behaviours (OCBs) using different methodologies and samples has consistently found that permanent workers tend to show more OCBs. While Van Dyne and Ang (1998) based their results on a small sample of 155 employees from two companies, Coyle-Shapiro and Kessler (2002) used a large dataset of 6953 employees, and Gilder (2003) confirmed their findings using data from a small sample, yet with information from multiple sources. Other research indicates that major differences exist in the category of 'temporary staff', namely between directly hired temporary workers and agency workers (Chambel and Castanheira, 2005). This research, based on multi-source survey data from two samples of respectively 339 and 191 employees, only found negative relations with intra- and extra-role behaviour for agency workers and not for directly hired temporary staff. These findings suggest that it is not the objective contract type that matters for EDI, but the more subjective relation between employer and employee and the degree of job security the employee perceives in his or her job. And indeed, research on the relation between perceived job security and employee outcomes is less ambiguous. A meta-analysis by Sverke et al. (2002) finds that job insecurity is moderately negatively related to commitment and strongly negatively related to organizational trust. Further, Probst et al. (2007) combined experimental and survey material to address the relation between job insecurity and creativity and found clear negative relations. We can therefore conclude that contractual flexibility is not expected to increase employee innovativeness; on the contrary, results suggest that focusing on contractual flexibility has a negative effect on EDI, running principally through depressed levels of subjective job security.

Contrary to contractual flexibility, the relation between flexible reward and employee innovativeness has been subject to serious debates and polemic. The critics of flexible reward point to the lack of any significant relation between financial rewards and employee outcomes and the various negative side-effects such systems can cause. They refer to 'intrinsic motivation' as the main driver of creativity and that an emphasis on extrinsic rewards would outcrowd the intrinsic motivation of employees (Amabile, 1988; Deci and Ryan, 2000). Advocates of financial reward, on the other hand, argue that well-designed reward systems do stimulate and incite employees to share their ideas and actively invest in innovations. According to them, extrinsic and intrinsic motivation are cumulative and rewards will thus function as an extra incentive to innovate (Eisenberger and Aselage, 2009; Eisenberger and Shanock, 2003; Eisenberger et al., 1999). Although empirical research focuses on both collective and individual flexible reward systems, in the context of this article we only focus on individual flexible rewards. Empirical findings are nevertheless ambiguous. A meta-analysis suggests that such systems are positively related to performance quantity, yet not to performance quality (Jenkins et al., 1998). Using survey data from 204 blue-collar employees, Ramamoorthy et al. (2005) found positive, yet indirect relations between incentive rewards and innovative work behaviour, running through increased levels of perceived obligations to innovate of employees. Other studies on the relation between the perception of being rewarded and employee creativity (or related concepts) identified multiple interaction effects. For example, in a study by Baer et al. (2003) based on data from 171 employees from two

organizations, the effect of reward qualitatively differed based on whether the employee had an 'adaptive' style or an 'innovative' style, with innovators being less affected by incentive rewards. The study furthermore found that work complexity, in combination with personality, neutralizes the effect of reward. Deckop et al. (1999) found performance-related pay to be negatively related to OCBs when the employee has a low level of 'value alignment', while this was not the case for employees with high levels of value alignment. Finally, based on multi-source data of 157 employees, Deckop et al. (2004) found that 'control by pay' was positive in terms of OCBs for employees with low risk aversion, while the relation was completely inverse for employees with high risk aversion. Using data from 170 employees from a single company, Janssen (2000) further showed that the perception of fairness intervened in the relation between reward and innovative work behaviour. From all these findings we can see that there is no direct and straightforward positive relation between incentive reward and EDI. The relation depends on multiple interaction effects related to the employees' personality, job design and the design of the reward system.

We conclude that sound evidence is available for a positive relation between functional flexibility and EDI. Sufficient indications were furthermore found that this is not so for contractual flexibility, which is presumably negatively related to EDI. Third, wage flexibility can have both positive and negative effects depending on multiple intervening variables. Consequently, there is no straightforward positive relation between labour flexibility and EDI; moreover, specific forms of labour flexibility can seriously undermine EDI.

### *Organizational innovation and labour flexibility*

Innovations in organizations are often the result of managerial decision-making, resource availability and the cost associated with investing in innovations. In this process, labour flexibility can play an important role as, for example, the costs associated with hiring and firing personnel might influence the managerial decision to invest in labour saving machinery. Therefore, we cannot merely extrapolate the findings on the relation between labour flexibility and EDI to organizational innovation. Organizational innovations are partly the result of employee innovations, but also stem from managerial decisions. Hence, we review the literature between the three types of labour flexibility and overall organizational innovativeness.

As innovation is seen as crucial for organizational survival and prosperity (Robinson and Schroeder, 2004), companies often search for ways to stimulate and enable innovation on the organizational level. Providing functional flexibility to the employees is a crucial element of the literature on high-performance work systems (HPWS), social innovation and socio-technical organization of the firm (Van Hootegem, 2000). Through the introduction of these HR and organizational concepts, employees would be provided with challenging jobs which enable them to use their innovative potential and reduce their resistance to workplace innovations. Yet, as the HPWS framework is developed in the first place to boost the productivity of organizations and employees, authors generally distinguish between HPWS practices which increase the involvement of employees versus practices that contribute to the intensification of the work (Harley, 2002).



Empirical results show that HPWS practices related to functional flexibility of employees (autonomy, team-working, quality circles, suggestion schemes, etc.) are positively related to organizational innovativeness. This finding was confirmed using both large-scale stratified samples of companies (Arvanitis, 2005) and smaller samples of companies from a selection of sectors (Martínez-Sánchez et al., 2007; Michie and Sheehan, 2003) and analysis of large-scale, longitudinal data (Zhou et al., 2011). Yet, the research also shows that isolated practices have only small effects on innovation. Nevertheless, when these practices are bundled in systems, the effect of HPWS on innovation is significantly positive (Laursen and Foss, 2003).

Again, attention to contractual flexibility in relation to innovation on the organizational level is rather rare. Combining survey data from 2700 companies with case study material, Storey et al. (2002) nevertheless found that flexible contracts were rarely introduced as part of a plan to promote innovation; furthermore the employees that were directly involved in innovative activities were extremely unlikely to have flexible employment contracts. Similarly, based on EU-wide data of more than 17,000 employees, Lorenz and Valeyre (2005) found that the most innovation prone organization type, the 'learning organization', used fewer temporary contracts than the other organizational types found in their research. Furthermore, Michie and Sheehan (2003) found a negative relation between the use of fixed-term, temporary contracts and organizational innovation while research by Arvanitis (2005) found positive relations, yet explained this by the fact that those temporary staff were specialized and engaged in temporary contracts to implement a certain innovation. Likewise, Martínez-Sánchez et al. (2007) found an interesting moderator effect in the relation between temporary work and innovations. This negative relation turned positive after adding a variable of interorganizational cooperation. The authors explain this moderator effect as companies with high levels of interorganizational cooperation tend to engage highly qualified employees with temporary contracts and therefore use temporary contracts just as a tool to increase their innovation potential. Serrano and Altuzarra (2010) also found positive effects of fixed-term contracts until a certain threshold after which the effects turned negative. Finally, a recent study by Zhou et al. (2011) showed that companies using a high proportion of fixed-term contracts score well in terms of imitative innovations, yet far worse when it comes to 'first-to-market' innovations. In conclusion, contractual flexibility seems generally negatively related to the innovativeness of organizations, yet this relation is not straightforward. The direction and strength of the relation depends on the degree to which it is used (Serrano and Altuzarra, 2010), the reason why the firm uses temporary contracts (Arvanitis, 2003; Nesheim et al., 2007) and the internal firm characteristics (Martínez-Sánchez et al., 2007).

Other studies also focused on the macro-level labour regulation of the employment contract and innovation. These studies use the OECD's Employment Protection Legislation (EPL) index, which summarizes the regulations on hiring and firing in a given country (Nicoletti et al., 2000) and relates this index to innovation performance on the national level. Doing so, most studies find a slight negative, yet insignificant relation between EPL and innovation (Bassanini and Ernst, 2002; Scarpetta and Tresselt, 2002). Bassanini and Ernst (2002) therefore suggested that the relation between EPL and innovation depends on the degree of coordination in the national industrial relations system. Highly coordinated labour relations offset and might even reverse the negative impact of

EPL on innovation. Other researchers like Kleinknecht, Naastepad and Storm (Kleinknecht, 1998; Kleinknecht and Naastepad, 2005; Storm and Naastepad, 2007) challenge this and show results which suggest that rigid labour market regulation in general stimulates innovation. Contractual innovation is therefore clearly no high-way to increased innovation. Company level research found both positive and negative relations. Macro-level research on the effect of employment regulation is inconclusive and finds both positive and negative relations.

Regarding wage flexibility, we have already reviewed the literature on its relation to EDI and concluded that incentive rewards can be both positive and negative for EDI, depending on multiple interacting variables. The relation between reward and organizational innovation is equally complex. Focusing only on individual incentive reward, the literature on HPWS is ambiguous as to whether to include incentive rewards as an involvement-enhancing HR practice or not. Most research finds insignificant relations (Michie and Sheehan, 1999; Shipton et al., 2005, 2006; Zoghi et al., 2010) while some find positive or mixed effects (Walsworth and Verma, 2007). Again, the effect tends to increase when incentive rewards are included in an HR system, yet various authors indicate that incentive rewards are actually part of HR systems that aim at work intensification, rather than work involvement and innovation. Accordingly, Lorenz and Valeyre (2005) found that the innovation prone 'learning type organization' seldom uses individual incentive reward systems.

From the literature we thus conclude that functional flexibility is positively related to organizational innovation. Yet, regarding both contractual and wage flexibility articles indicate very different results. It is nevertheless clear that boosting these last kinds of labour flexibility by no means guarantees a positive innovation outcome.

## Limitations

Before making general conclusions based on the research articles discussed here, the limitations of this literature review and of the literature examined need to be mentioned. In this article we used analyses from very different research streams with diverse methodologies to get an insight into the relation between labour flexibility and innovation. We relied heavily on literature from industrial psychology and organizational sociology, yet both have their advantages and disadvantages. As such, the studies in the industrial psychology field are generally based on small samples of employees from a (small) selection of companies. This makes the generalizability of the studies to the wider population of 'employees in Europe' relatively difficult. At the same time, these studies have very elaborate ways of measuring employee creativity and this rich kind of data enables the in-depth study of the relations. Organizational sociology research typically compares companies or employees in companies. It consequently works with larger samples, yet here the generalizability of the findings can be discussed as small companies are typically left out of consideration. Further, the data are typically less detailed which makes fine grained analysis of, for example, the different effects of individual and collective PRP difficult. Macro-level research suffers from the same limitations as its data rarely stem from surveys that were designed for studying the relations between labour flexibility and innovation. Further, this type of research tends to work with general indexes or



proxies which make detailed interpretation of the results a hard task. Readers should consequently show a fair degree of reticence in the interpretation of the results and in making policy conclusions.

## **Conclusion and discussion**

As both innovation and labour flexibility are core policy areas of the EU, the question on whether they are mutually reinforcing or rather counteracting is pertinent. Our review of the literature distinguished between three types of labour flexibility: functional flexibility, contractual flexibility and wage flexibility and studied their relation with, first, employee-driven innovation and second, organizational innovation. In doing so, research findings from various scientific fields, ranging from industrial psychology over organizational sociology to labour economics were used. We concluded that sound evidence is present to state that functional flexibility on the job level is positive for EDI, just as organizational level functional flexibility is positively related to organizational innovation. Functional flexibility and stimulating innovation can therefore be conceived as being complementary strategies.

Nevertheless, the same cannot be said for contractual and wage flexibility. Regarding contractual flexibility, the rare research on the topic found contractual flexibility and job insecurity to be negatively related to EDI. Regarding organizational innovation, the relation is ambiguous. At best, greater contractual flexibility does not affect either EDI or general innovation; at worst, it has a negative impact.

For wage flexibility, equally ambiguous results were found in the literature. Regarding its relation to EDI, most authors stress the complexity of the issue and the numerous pitfalls associated with the installation of incentive reward systems. Depending on the population, the type of reward and the type of job, the relation between reward and EDI shifts from positive, through insignificant to negative. Comparable results were found in the relation between flexible reward schemes and overall innovation on the organizational level. These observations thus confirm the caution taken in the managerial literature on the use of reward systems (Robinson and Schroeder, 2004). Whether wage flexibility and innovation are compatible policy directions is therefore unclear. Research shows that a form of wage flexibility can enhance both EDI and general innovation, yet in numerous environments it doesn't, or even has negative effects on innovation.

These observations are at odds with general trends in the European labour market. Based on the European Working Conditions Survey (EWCS), a general increase in the use of contractual flexibility through temporary contracts is observed (Eurofound, 2010b; Sandor, 2011). Also wage flexibility is frequently introduced in European companies (Eurofound, 2010a). Nevertheless, no clear trends towards increased functional flexibility are observed (Parent-Thirion et al., 2012). If Europe is to become an 'innovative union', trends need to move in a different direction as the scientific literature sufficiently indicates that an innovation agenda is best served by functional labour flexibility.

The EU labour flexibility agenda is nevertheless focused on the concept of flexicurity. This policy line directs policy makers towards so-called 'smart regulation' on employment regulations and decreasing 'wage restraints' (Goetschy, 1999). In essence this means working towards greater contractual and wage flexibility which has potentially

negative effects on both EDI and on organizational innovation. It seems that the EU is trying to combine both high-road (focusing on differentiation, innovation and quality) and low-road strategies (focusing on cost-cutting and price competition), without recognizing that these policies are potentially offsetting each other.

EU policies for increasing innovation should focus on enhancing the functional flexibility of workers. While the EU and the member states have developed sophisticated schemes for the activation of the unemployed, the activation of the employed through functional flexibility is largely ignored by European and national policy makers. Activating the employed in this way could nevertheless result in a serious competitive advantage for the European economies.

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### Author biographies

Stan De Spiegelaere is a researcher in labour regulation, industrial relations and the innovative behaviour of employees at the Research Institute for Work and Society (HIVA), KU Leuven, Belgium.

Guy Van Gyes is a research leader at HIVA, KU Leuven, Belgium. His research focuses on industrial relations, employee participation and organizational development.

Geert Van Hootegem is Professor of Sociology of Work and Industrial Relations at the Centre for Sociological Research (CESO) at KU Leuven.





## Chapter 6 Innovative work behaviour and performance-related pay: Rewarding individually or collectively?

**Abstract:** Where companies seek to improve competitiveness through innovation, the management wants employees to share and develop innovative ideas. Human resource management literature frequently refers to the introduction of Performance-Related Pay (PRP) as a way to motivate employees. In this study we focus on the relation between PRP and Innovative Work Behaviour (IWB). In doing so, we distinguish between individual and collective PRP and build on insights from the management and job design literature. Using survey data on 927 employees from five Belgian industries, we find that individual variable pay weakens the important positive effect of task-level job resources such as autonomy on IWB. Collective variable pay, on the contrary, shows a positive relation. Moreover, collective PRP strengthens the positive relation between organisational resources such as upward communication and IWB.

**Keywords:** Innovative Work Behaviour, Job Design, Performance-Related Pay, High-Performance HR management

**This chapter is based on:** De Spiegelaere, Stan, Guy Van Gyes, and Geert Van Hootegem. 'Rewarding the Individual or the Collective? On the Relation between Flexible Reward Policies and Innovative Work Behaviour.' *International Journal of Human Resource Management* (Under Review).

## 1. Introduction

In virtually all developed economies, innovation is identified as a priority for companies and for public policy. Innovation is defined as a key to durable business competitiveness. One major and sometimes overlooked source of innovation is the workforce of the companies (Høyrup, Bonnafous-Boucher, Hasse, Lotz, & Møller, 2012). Human Resource Management (HRM) stresses the importance of this human capital for organisational success (Pfeffer & Veiga, 1999) and the literature on High-Performance Resource Practices (Kehoe & Wright, 2010) seeks to identify HR policies that foster beneficial employee behaviour in organisations (Wright, Dunford, & Snell, 2001).

In this HRM context, recent studies called for more individual-level research that would be able to map the effect of HR practices on employee behaviour and attitudes, which in turn are assumed to affect the organisational performance (Becker, Huselid, Pickus, & Spratt, 1997; Kehoe & Wright, 2010). When it comes to organisational innovation, the focus should consequently be on the effect of HR policies on the innovative behaviour of employees. Employees who actively generate, develop, share and implement workplace innovations can as such form a crucial source of competitive advantage for organisations (Black & Lynch, 2004; Pot, 2011).

One frequently used, but debated HR practice that is intended to stimulate beneficial employee behaviour is performance-related pay (PRP) (Cox, 2005). Pay that is linked to the performance of the individual employee, his team or even the whole organisation should serve as an incentive for employees to work harder. But do such policies also encourage employees to work smarter, to search for more effective and innovative ways of approaching the work tasks, to behave more innovatively at work? This research question is only rarely tackled by the literature, certainly at the individual employee level, and forms the central topic of this article (De Spiegelare, Van Gyes, & Van Hootegeem, 2013). In studying the relation between PRP and the innovative behaviour of employees, we differentiate between two primary types of PRP, on the basis of individual performance on the one hand and collective performance on the other (Michie & Sheehan, 1999; Therrien & Leonard, 2003).

This article builds on one of the primary insights of the HRM literature: the importance of bundles of HR practices. Multiple HRM studies have shown that single HR practices often do not significantly affect employee or company performance (Delery & Shaw, 2001; Dyer & Reeves, 1995; Laursen & Foss, 2003). The importance of bundles of HR practices firstly points to the fact that individual HR practices do not have a sufficiently high impact to be reflected in statistically significant relations. Second, it highlights the interdependence of some HR practices and as such suggests the existence of important contingencies or interaction effects (Chang,

Gong, Way, & Jia, 2013). Two isolated HR practices may not affect employee behaviour, yet their combination could result in beneficial employee outcomes (Arthur, 1994; Macduffie, 1995). In this research, we build on this insight by actively examining the literature for possible interaction effects in the relation between PRP and employee innovative behaviour.

This article further responds to a recent call from Becker and Huselid (2010) for efforts in bridging the divide between the HRM and job design literature. When it comes to researching the triggers of employee behaviour in organisations, the job design literature definitely has a rich tradition of identifying the primary drivers for beneficial employee behaviour in terms of workplace creativity (Amabile, 1988), proactive behaviour (Parker, Williams, & Turner, 2006) or Innovative Work Behaviour (Scott & Bruce, 1994). This article takes these research findings into account and integrates them in the HRM literature.

As such, this article contributes to the literature in several ways. First, it deepens the knowledge of how different types of PRP affect employee innovative behaviour, which is an only rarely tackled research problem. Second, it builds on insights from different literature streams to develop and test the hypothesis on possible contingencies in the effect of PRP. As such, it unites the HRM literature with the job design literature. Third, we respond to the demands for more individual level research into how HR practices affect employee behaviour that is assumingly beneficial for company performance.

The article starts with a discussion of the main dependent variable, - Innovative Work Behaviour - an overview of the literature and the development of hypotheses. Next, the method is discussed and the results are presented. Before concluding, the results and research limitations are discussed.

## **2. Literature**

### **2.1 Employee innovative behaviour**

The main dependent variable is Innovative Work Behaviour (IWB). In line with the definition of Janssen (2000) Innovative Work Behaviour is defined as: 'Innovative work behavior, is all employee behavior aimed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures, new and intended to benefit the relevant unit of adoption' (De Spiegelare, Van Gyes, & Van Hootegem, 2014). IWB refers to the behaviour of employees that directly and indirectly contributes to the development and introduction of innovations. IWB here differs from a concept such as employee creativity, as it focuses not only on the generation of new ideas, but also on the actual implementation (Kanter, 1988). Further, where creativity is focused on absolutely new

ideas, innovative behaviour focuses on new ideas for the relevant unit of adoption and thus has a larger scope.

## **2.2 Performance-related pay and IWB**

The effect of performance-related pay on employee outcomes in terms of innovativity or creativeness is the subject of fierce debate. The debate is centred on the question of which kinds of motivation are essential for employee innovativeness. Zhou et al. (2011) called this the debate between romanticism and utilitarianism. According to utilitarianism, employees will be most motivated by extrinsic rewards such as monetary compensation (Edwards, 1989; Eisenberger & Rhoades, 2001; Eisenberger & Shanock, 2003). Performance-related pay will thus positively affect the employees' motivation and result in higher levels of innovative behaviour. Romanticism on the other hand suggests that innovative behaviour is sparked by intrinsic motivations. If employees perform interesting work and receive sufficient freedom and autonomy in performing their job, they will be highly innovative (Amabile, 1988; Deci, Koestner, & Ryan, 1999; Shalley & Gilson, 2004). According to the romanticists, extrinsic rewards like PRP would refocus the attention of employees from the job content to the job outcomes (the reward). As a result, employees would be less, rather than more innovative at work.

Most research focusing on the effects of PRP looks at different types of PRP simultaneously (Antonioli, Mazzanti, & Pini, 2009; Bae, Chen, David Wan, Lawler, & Walumbwa, 2003; Harley, 2002; Lau & Ngo, 2004). As such, they assume that the effect of individual forms of PRP (individual bonuses, flexible reward schemes) have a similar impact on innovation than more collective forms of PRP (gain sharing, group bonuses, profit sharing). We can nevertheless question whether taking individual and collective PRP together is meaningful when studying the effect on Innovative Work Behaviour. Indeed, if the effect of PRP involves an increase (utilitarianism) or decrease (romanticism) of worker motivation, some differences between individual and collective PRP are evident. As such, the link between individual behaviour and reward is much stronger in individual PRP than in the collective forms (Arrowsmith & Marginson, 2010). Moreover, in collective PRP forms, possible group level effects will also change the relations. Empirical research also found some indications for these differential effects. Lorenz & Valeyre (2005) observed that the innovation prone 'learning organisation' uses relatively less individual PRP schemes and relatively more collective PRP systems as compared to the 'lean organisation'. Arrowsmith & Marginson (2010) provide further indications that employers tend to refocus their attention on group PRP instead of individual PRP. According to the latter, the innovative environment puts the focus on cooperation and teamwork. This group effect is best promoted by collective, rather than individual PRP. Building on these insights, we analyse in our approach individual and collective PPR separately.

When it comes to individual PRP, the discussion between utilitarianism and romanticism is at the core of the debate. Current evidence shows a rather mixed image. In a meta-analysis, Jenkins et al. (1998) studied the effect of individual PRP on employee performance and found evidence for a positive relationship with performance quantity, but not performance quality. Ramamoorthy et al. (2005a) did find a positive, yet indirect, relation between incentive PRP and Innovative Work Behaviour, running through increased levels of perceived obligations to innovate by employees. Laursen & Foss (2003), using organisational level data, found that the presence of a PRP system in the firm was very weakly related to organisational innovativeness (p-value of 0.059). Given these ambiguous empirical results and the theoretical discussion on the topic, we hypothesise that we will not find a significant main effect between individual PRP and the innovative behaviour of employees.

*Hypothesis 1: There is no significant main effect between individual PRP and IWB.*

When it comes to collective PRP, the effect on the motivation of employees is assumingly lower due to the greater distance between the individual employees' behaviour and the reward system (Arrowsmith & Marginson, 2010). On the other hand, group effects will be more at play. Advocates of collective reward systems refer to the increased cooperation and feelings of ownership or commitment of employees in concluding that collective reward systems can positively contribute to the motivation and performance of employees (Bartol & Srivastava, 2002). Adversaries on the other hand point out the problem of the 'free rider behaviour' of employees (Gerhart, Minkoff, & Olsen, 1995) or state that collective forms of PRP will increase mutual monitoring and peer pressure between workers, which could negatively affect cooperation between workers due to a so-called suspicion effect (Green & Heywood, 2010). As a result of these contradictory theoretical effects, research findings on the effect of collective PRP on employee outcomes are relatively ambiguous.

HRM studies on the organisational level could not draw any clear conclusion. Most studies relating collective reward systems to organisational innovation find insignificant effects (Michie & Sheehan, 1999; Shipton, Fay, West, Patterson, & Birdi, 2005; Shipton, West, Parkes, & Dewson, 2004; Zoghi, Mohr, & Meyer, 2010), while some find positive (Nielsen & Lundvall, 2003) or mixed effects (Walsworth & Verma, 2007). On the individual level, Hanlon, Meyer and Taylor (1994) studied the effect of the elimination of a gain-sharing plan, and found that employees were actually more satisfied with their job, had higher levels of commitment and participated more in idea sharing after the gain-sharing plan was removed. Bartol & Srivastava (2002) nevertheless find that some forms of collective PRP increase the employees' incentive to share their ideas. Additionally, the study of Chiu & Tsai (2007), on the basis of a sample of 426 employees from electronics companies in Taiwan, indicated that profit sharing was positively related to the Organisational Citizenship Behaviour of employees. These more positive

effects of collective forms of PRP are further supported by case study results from Ogden (1995) and survey research of Schwochau et al. (1997), which indicated that profit sharing was associated with higher employee support for policy changes. More recently, Coyle-Shapiro et al. (2002) performed a longitudinal analysis on data from 141 engineering employees and established a favourable effect of profit sharing on employee commitment and trust in management. Summarising, we hypothesise that collective PRP will have a small positive effect on IWB.

*Hypothesis 2: There will be a (weak) positive relation between collective PRP and IWB.*

## **2.3 Job design & IWB**

Job design or work systems literature has a rich tradition in linking job design variables to employee attitudinal and behaviour outcomes. This job design literature can be located in the romanticism literature streams as it builds on the fundamental assumption that employees will behave innovatively when they are engaged in interesting and challenging jobs. And indeed, a meta-analysis made by Hammond et al. (2011) identifies job design as the main variable related to employee innovativeness. In this context, job resources play a central role of importance (Bakker & Xanthopoulou, 2013; Egan, 2005). Job resources are defined as *'those physical, psychological, social, or organisational aspects of the job that are either/or (1) functional in achieving work goals (2) reduce job demands and the associated physiological and psychological costs or (3) stimulate personal growth, learning, and development'* (Bakker & Demerouti, 2007). Job resources have been linked to a wide diversity of positive employee and organisational outcomes. More concretely, studies showed how job resources such as feedback, social support, or supervisory coaching are positively related to work engagement and negatively to employee burnout (Schaufeli & Bakker, 2004). Another study focusing on social support, autonomy, performance feedback and opportunities to learn as job resources indicated that a change in job resources leads to an effective increase in work engagement and decrease in sickness absenteeism (Schaufeli, Bakker, & Van Rhenen, 2009). Distinction can be made between task level resources and organisational level job resources (Schaufeli & Bakker, 2004). In this study, we focus on the one hand on *task-level job resources* such as job autonomy and learning opportunities. On the other hand, the focus is on *organisational job resources* such as the upward communication.

As for autonomy and learning opportunities - task-level job resources - research results are relatively straightforward about their positive effect on employee creativity and innovation (e.g. Axtell et al., 2000; Krause, 2004; Ohly, Sonnentag, & Pluntke, 2006; Parker et al., 2003; Ramamoorthy, Flood, Slattery, & Sardesai, 2005; Slåtten & Mehmetoglu, 2011; Unsworth, Wall, & Carter, 2005). A recent meta-analysis on the antecedents of employee innovativeness

confirmed this and identified 'job characteristics' as the main explanatory variable, with autonomy taking a central position (Hammond et al., 2011). Autonomy refers to the degree of control an employee has over how to carry out the job task (Hackman & Oldham, 1980). In Herzberg's two-factor model, the employee's autonomy over his own work and time use was already identified as a critical motivational factor (Herzberg, 1966; Miner, 2005). Employees with high autonomy have a high degree of discretion over how they will approach their tasks and when they will perform these tasks (or parts of tasks). In relation to autonomy in poor jobs, work is on the contrary highly prescribed by formal and informal rules and guidelines. Employees have little discretion over the individual work tasks. Autonomy enables employees to experiment with different work approaches and methods. It allows them to find ideas and develop them further through small scale application of these ideas. Moreover, research also found that in jobs with a great deal of autonomy, employees tend to participate more in knowledge sharing (Cabrera, Collins, & Salgado, 2006). Learning opportunities refer to the opportunities the employee has to learn new skills by performing his job tasks (Mikkelsen, Saksvik, Eriksen, & Ursin, 1999). Employees in jobs that provide sufficient opportunities to develop skills will have a greater skill variety and knowledge base. For employee innovation, high relevance and up-to-date professional skills are essential for finding so called 'new-combinations'.

*Hypothesis 3: Task-level resources (autonomy and learning opportunities) are positively related to IWB.*

Contrary to task-level job resources, the literature on organisational job resources is less developed. Some work has been done on the concept of organisational climate (Ekvall, 1996; Tesluk, Farr, & Klein, 1997) and the relation with employee creativity and innovation. Yet, we focus on the effect of upward communication as an organisational job resource. Ramsay et al. (2000) included upward communication in their analysis on the effect of high performance work systems and found that this upward communication was included in the factor that yielded the largest effects on a series of organisational and employee outcomes such as productivity, product quality or absence rate. Looking at the individual effect of upward communication on workers effort, Ollo-Lopez et al. (2010) found significant positive effects. As far as innovative behaviour, or employee creativity, is concerned, only few studies have as yet focused on upward communication as an antecedent. Positive effects are nevertheless potentially conceivable. If employees can effectively voice their concerns, complaints and ideas to higher hierarchical levels, they will be better placed to initiate or contribute to innovations in the firm.

*Hypothesis 4: Organisational job resources (upward communication) are positively related to IWB.*

## 2.4 PRP, job design and IWB

One of the main conclusions of the HRM literature is the importance of combinations, rather than individual HR practices for employee outcomes. Isolated HR practices can yield insignificant effects when not combined with other accompanying HR policies. Certainly when it comes to PRP, this fundamental interdependency seems to play a major role. Research into PRP systems is full of examples of how the systems can work well and fail, depending on a multitude of parameters (Cox, 2005; Jenkins et al., 1998; Laursen & Foss, 2003).

For individual PRP, the literature indeed indicates the presence of multiple contingencies in the relation with employee outcomes. As such, Deckop et al. (1999) found that individual PRP is negatively related to beneficial employee behaviour, but only when the employee has a low value alignment with the firm. Similarly, Janssen (2000) demonstrated that the perception of fairness intervened in the relation between reward and Innovative Work Behaviour. Finally, Baer et al. (2003) linked reward literature to the job design literature in his study on 171 employees from two different organisations. This study showed that the relation between reward and creativity depends on the type of job the employee is engaged in. When faced with complex tasks, extrinsic rewards negatively affect employee creativity, while the opposite is true for those faced with simple tasks. Although revealing, this study did not focus on PRP, but on the degree in which employees felt rewarded for their creative behaviour. We nevertheless build on their insights to hypothesise that there will be a significant interaction effect between task-level job resources and individual PRP in their relation with IWB. For employees receiving individual PRP, the effect of task-level resources is likely to be weaker than for employees not receiving individual PRP as their attention will be refocused from the job content to the job outcomes.

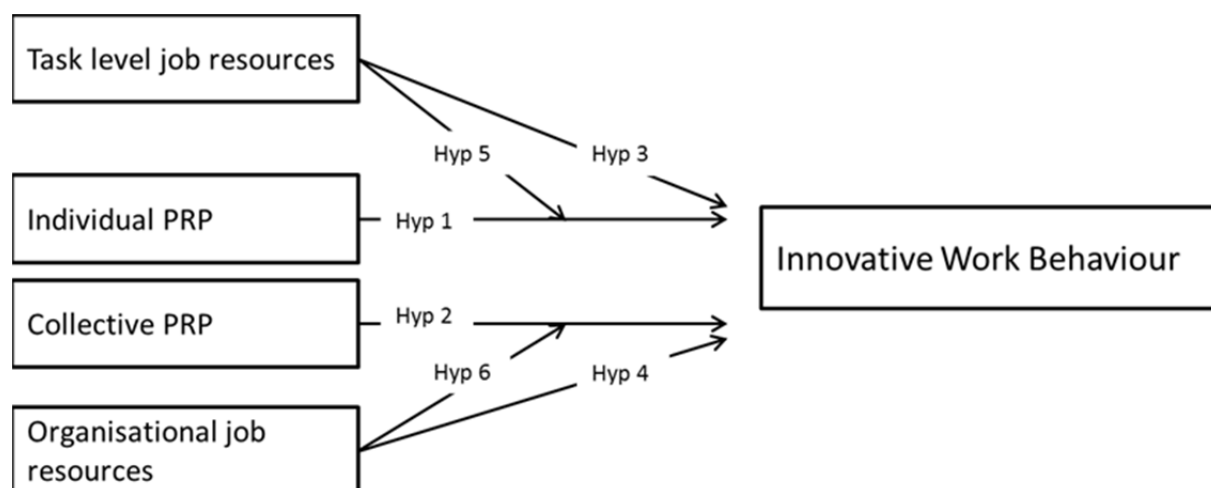
*Hypothesis 5: Individual PRP will weaken the positive relation between job autonomy and learning opportunities (task-level job resources) and IWB.*

For collective PRP, we mentioned earlier the possible group level effects that can affect the IWB of employees. HRM and other literature also here stress the need for flanking HR practices and the importance to study combined effects (Laursen & Foss, 2003). As such, Kruse et al. (2010) state that profit sharing in itself is not enough to result in positive employee outcomes. It has a positive effect, only if it is combined in a 'package' of high-performance work systems. Green & Heywood (2010) concluded the same in their literature review and suggested that probably, the relation between collective PRP and employee outcomes is the subject of moderating effects. In their article they look at the moderating influence of gender and union membership. Here, we take a different approach using insights from the case-study research insights on the 'Scanlon Plan' (Welbourne & Mejia, 1995). According to these studies, the



introduction of a form of collective reward, combined with an organisational structure in which employees can effectively influence the companies' performance will result in an overall increase of employee motivation and firm profitability, through the optimal mobilisation of the innovative and creative ideas of employees (Massoud, Daily, & Bishop, 2008; Thierry, 2011; Wren, 2009). In Figure 1, the formulated hypotheses are visualised.

Hypothesis 6: Collective PRP will strengthen the positive relation between upward communication and IWB.



**Figure 1** Hypotheses and model

### 3. Method

**Data collection and sample.** The employee level data were collected using a face-to-face standardised questionnaire. The sample consisted of Flemish workers from five different industries: banking, retail, hotels & restaurants, chemical industry and the sector of social work. As such, the sample consisted of employees from a multitude of organisations and HR policies. In total, 927 surveys were collected with an overall response rate of 57%. 60% of the respondents had a degree of at the highest level secondary education; 62% were engaged as full-time employees, and the average age of the respondents was 43 years old. About half of the sample (48%) was male. About 30% of the respondents were blue-collar workers, 59% white-collar employees and 11% had managerial positions. Response was enhanced through direct, personal communication between the interviewer and the respondent and through the provision of both conditional and unconditional incentives (Church, 1993). As such, the first information letter contained a gift, unconditional of participation and a selection of participating respondents was awarded with a gift voucher

**Measures.** The presence of individual and collective forms of performance-related pay was measured using dummy variables. Employees were first asked whether a part of their wage was dependent on their individual performance. Second, employees were asked whether their wage (on a monthly, yearly or other basis) was dependent on the group level performance or company performance (profit sharing, gain sharing and occasional collective bonuses).

*Innovative work behaviour* was measured using the IWB scale developed by De Jong & Den Hartog (2010). Respondents indicated how much a certain characteristic occurred in their job, ranging from 'very rarely' to 'very frequent'. Examples are: finding original solutions for work-related problems and developing innovative ideas into practical applications. An exploratory factor analysis showed that two factors could be found referring to idea generation and idea implementation. Yet given the high inter-correlation of these two factors ( $r = 0.77$ ), a single scale was computed (Cronbach  $\alpha$ : 0.94).

*Task-level job resources* were measured using a series of 7 questions that referred to job autonomy (e.g. 'I can arrange my own work pace' and 'I can decide for myself how I perform my work') and 7 questions related to learning opportunities at work (e.g. 'I have the opportunity to develop my professional skill and through my work, I learn new things'). Following Schaufeli & Bakker (2004), we calculated a single variable of all these items with a high reliability (Cronbach  $\alpha$ : 0.87).

*Organisational job resources* were measured using 4 items referring to effective bottom-up communication. Sample items are 'in my company people can express clearly when they disagree on a topic', and 'in my company, one can react on decisions coming from above' ( $\alpha$ : 0.84).

Further, *control variables* were included such as educational level, sector of employment, age, size of company and type of employee.

**Analytic strategy.** In this article we use multiple regressions to analyse the relations between our independent and dependent variables. We first checked for the dimensionality of our variables by performing an exploratory factor analysis (oblique rotation) on all items on Likert scale items. This analysis indicated that all items loaded primarily on the hypothesised latent variable. Afterwards, using the factor scores, we computed scales for the latent variables. Next, we checked the correlation matrix to inspect the bivariate relations and to spot possible problems of multicollinearity. The multiple regressions were performed in several steps. Step 1 included only the control variables and regressed them on the Innovative Work Behaviour of employees. In step 2 we included the main effects of our independent variables, and in step 3 we included our hypothesised interaction effects.

## 4. Results

Table 1 presents descriptive statistics of the data. The correlation matrix shows that level resources and organisational resources correlate significantly (and positively) with IWB. This is not so for the relations between the PRP variables and the others. There is no significant correlation between individual PRP and IWB or the organisational resources and we observe a significant positive correlation with task-level resources. Collective PRP on the other hand is positively related to IWB and organisational resources.

**Table 1**      **Correlations**

|   |                           | Cr. $\alpha$ | St. D | 1        | 2        | 3       | 4         |
|---|---------------------------|--------------|-------|----------|----------|---------|-----------|
| 1 | Innovative Work Behaviour | 0.94         | 0.93  |          |          |         |           |
| 2 | Task level resources      | 0.87         | 0.94  | 0.506*** |          |         |           |
| 3 | Organisational resources  | 0.84         | 0.93  | 0.219*** | 0.327*** |         |           |
| 4 | Individual PRP (dummy)    | n.a.         | n.a.  | 0.039    | 0.083**  | -0.044  |           |
| 5 | Collective PRP (dummy)    | n.a.         | n.a.  | 0.121*** | 0.036    | 0.084** | -0.414*** |

\* p: <0.1; \*\*p:<0.05; \*\*\*p: <0.01.

The results of the regression analysis are given in Table 2. In model 1, only the control variables are included in the analysis. The control variables explain 14% of the variance in IWB. We see that the major effects stem from the sector variable and the type of employee variables. As can be expected, employees in professional and managerial staff functions have significantly higher levels of IWB as white- or blue-collar employees. Regarding the sector, the lowest levels of IWB are observed in the banking and retail sector. Education does not seem to play an additional role of significance in this first model, in the same way as age. The effect of company size is significant, yet the coefficient is very small ( $\beta$  0.00, p: <0.01).

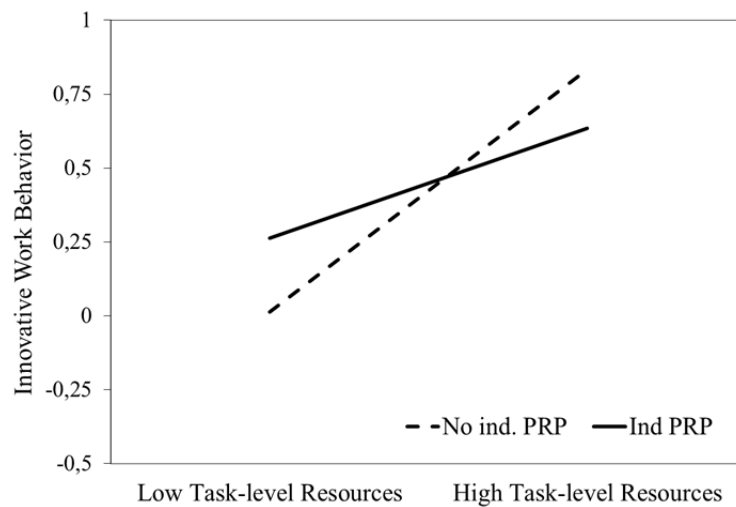
In model 2, the main effects of our independent variables are introduced in the model. The explained variance changes from 0.14 to 0.32, indicating that an additional 19% of the variance is explained by the independent variables. From this analysis, we can check the validity of hypotheses 1 to 4 on the main effects of the different variables. Regarding the effect of individual and collective PRP, our hypotheses are confirmed. There is no main effect between individual PRP and IWB ( $\beta$  -0.021, p: 0.798), while there is a significant and positive relation between collective PRP and IWB ( $\beta$  0.281, p: <0.01).

**Table 2**      **Regression results**

|                                    |                                   | Innovative Work Behaviour |         |                |         |                |         |
|------------------------------------|-----------------------------------|---------------------------|---------|----------------|---------|----------------|---------|
|                                    |                                   | <u>Model 1</u>            |         | <u>Model 2</u> |         | <u>Model 3</u> |         |
| R square                           |                                   | 0.140                     |         | 0.320          |         | 0.330          |         |
|                                    |                                   | Beta                      | p value | Beta           | p value | Beta           | p value |
| Intercept                          |                                   | 0.829                     | <0.01   | 0.393          | 0.024   | 0.424          | 0.015   |
| Age                                |                                   | -0.001                    | 0.710   | -0.001         | 0.857   | -0.001         | 0.846   |
| Educatie                           | ISCED 0-1                         | -0.226                    | 0.097   | -0.263         | 0.031   | -0.254         | 0.037   |
|                                    | ISCED 2-3                         | -0.011                    | 0.923   | -0.056         | 0.596   | -0.055         | 0.602   |
|                                    | ISCED 4-5                         | -0.082                    | 0.476   | -0.050         | 0.626   | -0.054         | 0.595   |
|                                    | ISCED >5                          | 0.000                     |         | 0.000          |         | 0.000          |         |
| Employee Type                      | Blue-collar                       | -0.985                    | <0.01   | -0.507         | <0.01   | -0.557         | <0.01   |
|                                    | White-collar                      | -0.498                    | <0.01   | -0.268         | <0.01   | -0.317         | <0.01   |
|                                    | Professional and managerial staff | 0.000                     |         | 0.000          |         | 0.000          |         |
| Sector                             | Banking                           | -0.556                    | <0.01   | -0.536         | <0.01   | -0.549         | <0.01   |
|                                    | Retail                            | -0.318                    | <0.01   | -0.093         | 0.314   | -0.071         | 0.440   |
|                                    | Hotels & Restaurants              | -0.084                    | 0.463   | 0.053          | 0.609   | 0.078          | 0.450   |
|                                    | Chemical industry                 | 0.033                     | 0.742   | -0.042         | 0.653   | -0.027         | 0.771   |
|                                    | Social & Cultural work            | 0.000                     |         | 0.000          |         | 0.000          |         |
| Company Size                       |                                   | 0.000                     | <0.01   | 0.000          | <0.01   | 0.000          | <0.01   |
| Task-level resources               |                                   |                           |         | 0.415          | <0.01   | 0.446          | <0.01   |
| Organisational resources           |                                   |                           |         | 0.064          | 0.035   | 0.021          | 0.551   |
| Individual PRP (0: no PRP)         |                                   |                           |         | -0.021         | 0.798   | 0.024          | 0.769   |
| Collective PRP (0: no PRP)         |                                   |                           |         | 0.281          | <0.01   | 0.267          | <0.01   |
| Ind. PRP*Task level resources      |                                   |                           |         |                |         | -0.224         | <0.01   |
| Coll. PRP*Organisational resources |                                   |                           |         |                |         | 0.145          | 0.020   |

Hypotheses 3 and 4 on the effect of the two types of job resources (task level and organisational) are also confirmed. The relation between task level resources and IWB is positive and significant ( $\beta$  0.415,  $p$ : <0.001). This finding is in line with the literature on the importance of job resources for employee innovativeness (Hammond et al., 2011). The main effect between organisational resources and our dependent variable is also positively related to IWB ( $\beta$  0.064,  $p$ : 0.035) confirming our second hypothesis. Notice nevertheless that this effect size is far weaker than the effect size of task level resources.

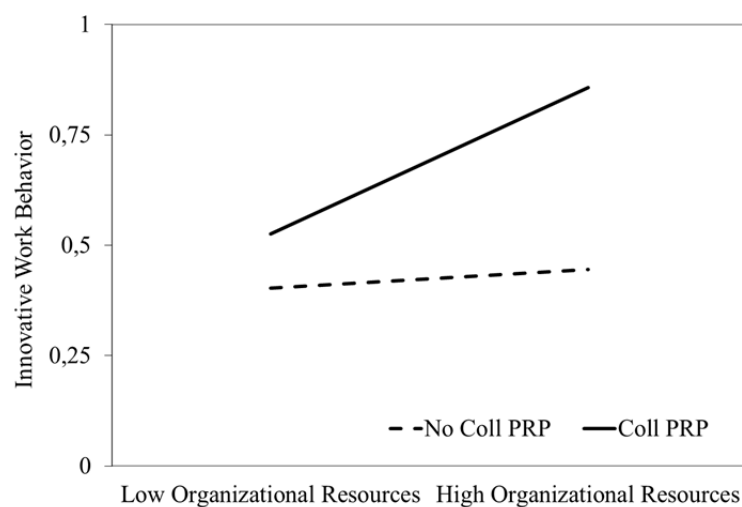
In model 3, the interaction terms are added to the model. This model results in a small increase in explained variance, but the two included interaction effects are statistically significant. To demonstrate these effects more clearly, we plotted them in Figure 2 and 3.



**Figure 2** Interaction 1

Figure 2 clearly shows that the positive effect of task-level job resources is affected by the presence or absence of an individual PRP system. Individual PRP negatively affects the positive slope between task-level resources and IWB and thus buffers the positive effect of task level resources on IWB.

Our hypotheses on the relation between collective PRP and IWB predicted a positive main effect and an interaction effect with organisational resources. The regression results confirm these hypotheses. A significant main effect of collective PRP (model two,  $\beta$  0.281,  $p$ : <0.01) and a significant interaction term (model three,  $\beta$  0.145,  $p$ : 0.020) are established. Again, we plot the interaction effect for ease of interpretation (Figure 3).



**Figure 3** Interaction 2

Figure 3 shows that the effect of organisational resources on IWB is much stronger when employees are given a collective form of PRP than when this is not the case. Opposed to individual PRP, which buffered the effect of task-level resources on IWB; collective PRP strengthens the effect of organisational resources on IWB.

## 5. Discussion

As managers seek to influence the performance of their employees, they frequently turn to performance-related pay schemes to do so. Yet, these schemes are known for their complexity, not their effectiveness. Although some evidence suggests that PRP schemes might increase the work effort of employees (Jenkins et al., 1998), it is unclear how PRP schemes affect the innovative behaviour of employees in the organisation. Building on previous research insights, this article tried to disentangle the complex relationship of PRP with IWB, through the identification of interaction effects (contingencies) with job design/resources variables.

Our analysis confirmed previous research on high-performance work systems and innovation: more than reward systems, the job design is a crucial factor for explaining employee innovativeness. Task-level and organisational resources such as autonomy, learning opportunities, or upward communication are more strongly related to IWB than any type of PRP.

Regarding the effect of individual PRP, our hypotheses were confirmed: there was no main effect, but a significant interaction effect with task-level job resources. This finding confirms the results of Baer et al. (2003) and uses a more objective indicator of reward system and a behavioural outcome variable, IWB. We conclude that individual PRP buffers the positive effect of task-level job resources on IWB as it negatively affects the steepness of the positive slope between the two variables. The positive effect of task-level job resources is, in other words, partially offset when employees receive individual PRP. This finding indicates that installing a system of individual PRP is not a managerial quick win and does not in itself contribute to employees showing more innovative behaviour at work.

When we focus on collective PRP, the results are very different. The regression results indicate a positive main effect and a significant interaction with organisational resources. The interaction showed that when employees are given a collective form of PRP, organisational resources do contribute significantly to the innovative behaviour of employees. The finding thus confirms the suggestion of earlier case-study research based on the Scanlon plan (Massoud et al., 2008; Wren, 2009).

Taken together, our research contributes significantly to the managerial science on the effects of PRP on employee performance. Our findings on individual PRP fit perfectly in the literature stream suggesting that extrinsic rewards (and thus extrinsic motivation) replaces intrinsic motivation and consequently negatively affects employee innovativeness (Amabile, 1993; Deci et al., 1999). The results on collective PRP nevertheless suggest the opposite as they show a clear positive relationship. We can thus conclude that not all flexible monetary reward systems have the same impact on employee behaviour, presumably because they have a very different impact on the motivation of employees. Individual PRP very concretely links the reward to the behaviour of the isolated individual employee performance and could actually lead to a crowding out of the intrinsic motivation of employees. For collective PRP, the relationship with the individual behaviour is less marked, so it might be less likely to have a significant negative effect on the intrinsic motivation of the employee.

This article nevertheless has limitations. Due to the cross-sectional nature of the study design, causal inferences cannot be made. The fact that we used a cross-sectional design nevertheless enabled us to build our findings on a large sample of employees from all hierarchical levels in five industries. Second, all information on which the analysis is performed came from one single source, which can result in so-called 'common method variance'. Using proactive strategies and combining subjective appraisal questions with more objective data questions limits the possibility of a serious bias due to CMV. As such, building on the proposal of Podsakoff et al. (2003) the answer scales used in the research differed in size (6-7 point scales) and in labels (agree-disagree vs. always-never). Further, a Harman's single factor test was performed on scale variables included in this research. This factor analysis resulted in the identification of 7 different factors, which makes the likelihood of disruptive CMV improbable. Finally, there are other good arguments that indicate that CMV is not a central problem in this research. First, more 'factual' questions on the presence or absence of certain HR methods is significantly less affected by CMV (Chang, van Witteloostuijn, & Eden, 2010). Second, finding significant interaction effects indicates that a high bias from CMV is improbable as they are generally deflated by large method effects (Siemens, Roth, & Oliveira, 2010).

## **6. Conclusion**

As Jeffrey Pfeffer (1998) noted in his article in the Harvard Business Review, performance-related pay policies are very popular with managers because, *'It's simpler for managers to tinker with compensation than to change the company's culture'*. Yet, while implementing reward systems might be relatively easy, assessing their outcomes is not, certainly not when it comes to employee innovativeness. As we have shown in this article, when it comes to individual PRP, the relation with IWB is ambivalent. No significant main effect was found, but indi-

vidual PRP does negatively affect the positive relation between task-level job resources and IWB. As for collective PRP, a clear positive effect was found with IWB. Moreover, collective PRP significantly strengthens the positive relation between organisational resources and IWB.

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## **Chapter 7 On the relation between job insecurity, job autonomy, innovative work behaviour and the mediating effect of work engagement**

**Abstract:** European policy is focusing on innovation as a way out of the crisis. At the same time, job insecurity is rising as Europe is still in crisis. We examine in this article whether this rise in job insecurity is a neutral evolution with regard to innovation by focusing on the relation between job insecurity, job autonomy, work engagement and Innovative Work Behaviour (IWB). Using employee level survey data, we use structural equation modelling to disentangle the relations between these variables. The partially mediated model shows the best fit with the data. This model shows that job insecurity and autonomy are both directly and indirectly, through work engagement, related to IWB. These relations are positive for autonomy, while they are negative (and much weaker) for job insecurity. Moreover, a negative covariance is observed between job insecurity and autonomy.

**Keywords:** Innovative Work Behaviour, Innovation, Job Insecurity, Autonomy

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## 1. Introduction

The ambition of the EU 2020 strategy is to focus on smart, sustainable and inclusive growth. Smart growth refers to the importance of innovation. The EU's ambition is to become an innovative union in which good ideas are picked up and swiftly commercialised (European Commission, 2010). Although the focus is primarily on science and technology, attention is also given to social innovation and bottom-up Employee-Driven Innovation (Møller, 2010). According to multiple studies, the importance of these small, day-to-day workplace innovations is crucial for an organisation's survival and prosperity (Getz & Robinson, 2003; Janssen, 2000; Oldham & Cummings, 1996). Consequently, more attention in academia and in policy circles is being given to how employees' Innovative Work Behaviour (IWB) can be stimulated and triggered (e.g. EUWIN, 2012).

At the same time, Europe is facing an economic crisis with serious labour market effects. One of these effects is an overall increase in 'job insecurity', which causes various psychological, sociological and health problems (see: De Witte, 1999; Sverke, Hellgren, & Näswall, 2002; Sverke & Hellgren, 2002). A growing number of workers in Europe are feeling insecure about their future employment (Van Gyes & Szekér, 2013).

This study focuses on the effect of job insecurity on IWB. In doing so, we also take into account the effects of two antecedents of IWB (autonomy and work engagement) and examine both direct and indirect relations between these variables.

Job autonomy has frequently been identified as one of the major antecedents of employee creativity, yet the discussion on how and why it affects employee innovative behaviour is still ongoing (e.g. Battistelli, Montani, & Odoardi, 2013; Chang, Huang, & Choi, 2012). In this respect, this study focuses not only on the direct relationship of job autonomy with IWB, but also on the indirect effect through work engagement. Work engagement has recently been given much attention as an important mediator in the relation between job characteristics and employee outcomes. By studying these direct and indirect relations, this article responds to the various calls in the innovation literature (Shalley & Gilson, 2004; Shalley, Zhou, & Oldham, 2004) to explicitly model both the direct effects of employee innovation antecedents and the mediated effects through work engagement.

This study is one of the first to study the relation between job insecurity and Innovative Work Behaviour (Niesen, De Witte, & Battistelli, 2011). In this respect, our study contributes to both the innovation literature that largely ignored job security as a possible antecedent and to the employee innovation literature, as it extends its scope of employee outcomes to Innovative Work Behaviour.



In terms of practice, this study has implications for innovation managers and policy makers. If job insecurity is negatively related to IWB, innovation managers should provide secure jobs to employees who are expected to contribute to innovations. The same goes for autonomy, if we discern significant effects, innovation managers should give employees enough discretion in how they perform their work tasks. For policy makers, this study could indicate that the observed rise in job insecurity in Europe is not a neutral process and can potentially negatively affect the innovation agenda (De Spiegelaere, Van Gyes, & Van Hootegem, 2013).

## **2. Literature**

### **2.1 Innovative work behaviour**

Following West and Farr (1990), we define Innovative Work Behaviour as '*all employee behaviour directed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures, new to the relevant unit of adoption that supposedly significantly benefit the relevant unit of adoption*'. IWB is about employees finding, suggesting and implementing new and beneficial work-related ideas. As such, IWB is generally considered as behaviour beneficial for the organisation. Building on the work of Kanter (1988) and Scott and Bruce (1994), IWB is conceived as a multi-dimensional concept. Employees generate innovative ideas, seek support for these ideas from colleagues and supervisors and implement the ideas in the workplace (De Spiegelaere, Van Gyes, & Van Hootegem, 2014). Although researchers distinguish between three, four or even five sub-dimensions of IWB (see: de Jong & Den Hartog, 2010; Janssen, 2000; Kleysen & Street, 2001), a large share of the literature identifies two sub-dimensions: idea generation and idea implementation (Krause, 2004; Yuan & Woodman, 2010). Idea generation refers to the phase in which employees identify problems and generate innovative solutions to address the problems. In the implementation phase, the employee proposes, defends and actually implements the innovation in the workplace. Following Kanter (1988), Scott and Bruce (1994), and Tuominen and Toivonen (2011), these dimensions should not be regarded as sequential stages. Innovation is a discontinuous process, and so is the innovative behaviour of employees.

IWB can be distinguished from employee creativity for two main reasons. First, creativity focuses exclusively on the idea generation phase, while IWB encompasses all employee behaviour related to different phases of the innovation process. Second, creativity traditionally refers to the creation of something absolutely new. IWB on the contrary focuses on something new *for the relevant unit of adoption* (Amabile, Conti, Coon, Lazenby, & Herron, 1996; De Spiegelaere et al., 2014). Employees who take the initiative to copy successful work habits

from other departments, for example, are clearly staging important 'innovative behaviour' while not engaging in workplace creativity. The literature on creativeness will be useful for the development of our hypotheses since the two concepts show a considerable overlap.

## 2.2 Job insecurity

Job insecurity can be defined as '*an overall concern about the continued existence of the job in the future*' (Cheng & Chan, 2008; De Witte, 1999; Sverke et al., 2002). Job insecurity has been linked to a variety of negative employee outcomes in terms of health (Cheng & Chan, 2008; Sverke et al., 2002), turnover (Probst, 2008; Staufenbiel & König, 2010) and reduced organisational citizenship behaviours (Reisel, Probst, Chia, Maloles, & König, 2010).

Regarding the relation of job insecurity to employee innovative behaviour or creativity, the literature is far less developed. Three central review articles on employee innovative behaviour and creativity do not even mention job insecurity as a possible explanatory variable (Hammond, Neff, Farr, Schwall, & Zhao, 2011; Shalley & Gilson, 2004; Shalley et al., 2004). Nevertheless, a variety of theoretical models predict significant (negative) consequences of job insecurity in terms of innovative behaviour. These models essentially go back to what Greenhalgh & Rosenblatt (1984) termed the '*disinvolvement syndrome*': employees in insecure jobs feel less obliged and motivated to solve work-related problems that go beyond the scope of their normal job description. Similarly, job-adaptation theory (Hulin, 1991) suggests that employees facing job insecurity will develop strategies of withdrawal from the stressor (i.e. job insecurity). This withdrawal can relate to higher employee mobility turnover intentions or decreased levels of commitment (Cheng & Chan, 2008; Probst, 2002; Sverke et al., 2002).

One could argue that an employee's decreased level of commitment or involvement will affect Innovative Work Behaviour for two reasons. Firstly, because of the time-intensive and long-term character of innovation processes employees are likely to opt out of these kinds of behaviours when facing job insecurity.

Secondly, IWB is a kind of employee behaviour focused on changing aspects of the work or the organisation. As such, IWB can be related to worsened relations with co-workers and supervisors. Innovative employees run the risk of conflict with other employees as these may resist the change. Their attachment to current habits and work practices can lead to worsened personal relations with the innovative employee (Janssen, Van de Vliert, & West, 2004; Janssen, 2003). Employees facing job insecurity may not be willing to take these risks, as a conflict with the supervisor could further jeopardise their future employment chances.

Unfortunately, studies that relate job insecurity to employee innovative behaviour are scarce. Amabile and Conti (1999) studied the work environment for creativity in the context of down-

sizing and found significant negative relations. Although this study did not measure creativity or IWB, it gives an indication of the relation between job insecurity and IWB. Next, a research in contexts of lay-offs and company restructuring found that employees facing these challenges are more risk averse (Cascio, 1993). A more recent study of Probst et al. (2007) combined both experimental and survey research to analyse how job insecurity affects employee creativity. Through both methodologies the researchers found significant negative relationships. Consequently, we expect to find a direct negative relationship between job insecurity and IWB.

*Hypothesis 1: Job insecurity is negatively related to Innovative Work Behaviour.*

### **2.3 Extending the scope: Job autonomy**

In studying the effect of job autonomy on IWB, we build upon a recent meta-analysis of Hammond et al. (2011) that identified job autonomy as one the main antecedents of employee innovative behaviour. Autonomy refers to the degree of control an employee has over how to carry out the job task (Hackman & Oldham, 1980). For many years, autonomy has taken a central place in various theories of job design (e.g. Hackman and Oldham's Job Characteristics theory (1980), Karasek's Job-Demands Control theory (1979) and Bakker and Demerouti's Job-Demands Resources theory (2007)).

Autonomy enables employees to experiment with different work approaches and methods. It enables them to find ideas and develop them further through the small-scale application of these ideas. Moreover, research also found that in jobs with much autonomy, employees tend to participate more in knowledge sharing (Cabrera, Collins, & Salgado, 2006). As a result, research identified autonomy as a strong predictor of employee innovative behaviour (e.g. Axtell et al., 2000; Krause, 2004; Ohly, Sonnentag, & Pluntke, 2006; Parker et al., 2003; Ramamoorthy, Flood, Slattery, & Sardesai, 2005; Slåtten & Mehmetoglu, 2011; Unsworth, Wall, & Carter, 2005).

*Hypothesis 2: Autonomy is positively related to IWB.*

### **2.4 Mediation by work engagement**

In research on employee creativeness and Innovative Work Behaviour, it is frequently assumed that antecedents like job autonomy affect employee innovative behaviour through changed levels of employee motivation or work engagement (Shalley & Gilson, 2004; Shalley et al., 2004). These studies, in other words, suggest the existence of important mediation effects in the relation between job characteristics and employee innovation.

In this study we aim to explicitly study this mediation effect in the relation between autonomy, job insecurity and IWB. We do so by focusing on work engagement as a mediating variable. Traditionally, work engagement is defined as '*a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption*' (Schaufeli & Bakker, 2004). Work engagement is not a momentary state of mind, but is persistent and not directly focused on a particular object, event, individual or behaviour (Bakker & Demerouti, 2008; Salanova, Agut, & Peiro, 2005). Work engagement consists of three dimensions: vigour, dedication and absorption. *Vigour* refers to the mental state of employees, characterised by high levels of energy, resilience, willingness to invest effort and persistence in the face of problems. *Dedication* is characterised by an employee's enthusiasm and pride in the work, the feeling of receiving inspiration from work and an overall sense of significance related to work. *Absorption* refers to a state of mind in which the employee is highly concentrated and engrossed in his/her work. Time flies and he or she has difficulties in becoming detached from the work.

In previous studies, the focus was mostly on intrinsic motivation as a mediator, rather than work engagement (e.g. Carmeli & Spreitzer, 2009; Yuan & Woodman, 2010). Work engagement and intrinsic motivation are similar, though not identical concepts. In previous work on employee creativity and innovation, reference is mainly made to the importance of intrinsic motivation, i.e. motivation rooted in the content of the task in itself (Shalley & Gilson, 2004; Shalley et al., 2004). This motivation is mainly contrasted with extrinsic motivation, which refers to a motivation driven by the external outcome of performing the task (earning a salary, enjoying a certain social status). Contrary to intrinsic motivation, work engagement does not refer to a specific driver of employee engagement, but merely measures the degree of vigour, dedication and absorption experienced by the employee (Schaufeli, Bakker, & Salanova, 2006), without discriminating between the different sources of that work engagement. In practice, both concepts are relatively similar (e.g. Mauno, Kinnunen, & Ruokolainen, 2007). Many of the identified antecedents are the same and work engagement is often used as a specific type of employee motivation (Salanova et al., 2005).

Work engagement has been linked to various positive organisational outcomes in terms of productive employee behaviour (Bakker & Demerouti, 2008; Salanova et al., 2005) and was found to be an important mediating variable in the relation between job characteristics and employee outcomes (Bakker & Xanthopoulou, 2013; Saks, 2006).

Building on this, we hypothesise that the relation between job autonomy and IWB is also mediated by work engagement. Indeed, autonomy not only enables employees to experiment with innovative work practices, it also fosters their overall engagement and motivation (see: Bakker & Demerouti, 2007; Hackman & Oldham, 1980; Karasek, 1979). Job autonomy enables employees to attain their work goals (Nahrgang, Morgeson, & Hofmann, 2011) and

to react swiftly to changing job demands, and buffers the negative impact of stressors (Bakker & Demerouti, 2007). This is likely to enable employees to perform their job with vigour and dedication. Multiple studies have confirmed that autonomy and work engagement are positively related (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Mauno et al., 2007; Saks, 2006; Schaufeli & Bakker, 2004) and we consequently hypothesise that work engagement will mediate the relation between job autonomy and IWB.

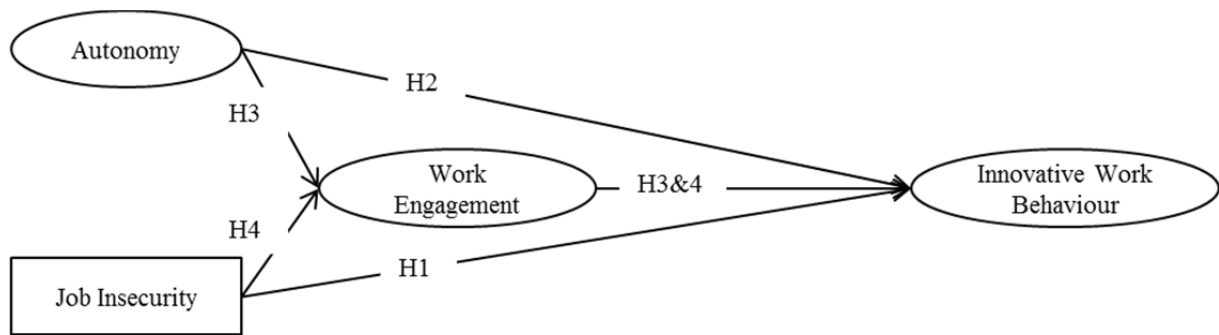
*Hypothesis 3: Work engagement mediates the relation between job autonomy and IWB.*

Job insecurity is also related to work engagement. Job insecurity is considered as a stressor (De Witte, 1999; van Vuuren, Klandermans, Jacobson, & Hartley, 1991) that can negatively affect the work engagement of employees (Bosman, Rothmann, & Buitendach, 2005; Vander Elst, Bosman, De Cuyper, Stouten, & De Witte, 2013). When employees perceive their job as insecure, they are likely to feel powerless and perceive a lack of control (Vander Elst, De Cuyper, & De Witte, 2011). These factors will negatively affect the degree to which employees become engaged in their work. Empirical work on this relationship indeed confirms the negative relation between job insecurity and work engagement. For example, a cross-sectional study made by Mauno et al. (2005) showed that job insecurity is negatively related to work engagement, and that this relationship is especially strong for permanent workers. The finding was confirmed by the cross-sectional studies of De Cuyper et al. (2008) and Vander Elst et al. (2010; 2013) and by a longitudinal study of Muano et al. (2007) that showed that job insecurity had a negative effect on the dedication level of employees. We therefore propose the following hypothesis.

*Hypothesis 4: Work engagement mediates the relation between job insecurity and IWB.*

## **2.5 Models under research: Direct vs. indirect effect of job insecurity and autonomy**

As a whole, our hypotheses predict that there are multiple direct and indirect relations between autonomy, job insecurity, work engagement and IWB. More concretely, we hypothesise that job insecurity is both directly related to IWB (hypothesis 1) and indirectly through a negative effect on work engagement (hypotheses 4). The same goes for autonomy: we hypothesise a direct (positive) effect on IWB (hypothesis 2) and an indirect effect through work engagement (hypotheses 3). The predicted full model is depicted in Figure 1.



**Figure 1** Predicted model

### 3. Method

#### 3.1 Sample

The employee level data were collected using a face-to-face standardised questionnaire. The sample consisted of Flemish workers from five different industries: banking, retail, hotels and restaurants, the chemical industry and the sector of social work. The sample was compiled with the help of the two trade unions of these sectors. As such, an  $\alpha$ -select sample was drawn from the membership databases of these unions which together represent over 50% of the Belgian working population (Vandaele & Faniel, 2012) and are representative for the working population (Van Gyes, 2011). The sample consisted of employees from a multitude of organisations and HR policies. In total 927 questionnaires were collected with an overall response rate of 57%. 60% of the respondents had a degree of at the highest secondary education; 62% were hired as full-time employees and the average age of the respondents was 43 years old. About half of the sample (48%) was male. About 30% of the respondents were blue-collar workers, 59% were white-collar employees and 11% held managerial positions. Response was enhanced through direct, personal communication between the interviewer and the respondent and through the provision of both conditional and unconditional incentives (Church, 1993). The first information letter contained a gift, unconditional of participation. Furthermore, a lottery was announced and organised between the participants (conditional incentive) of whom five were awarded a gift voucher.

#### 3.2 Measures

For most measures, respondents could answer on a 7-point Likert scale ranging from 'totally disagree' to 'totally agree' or from 'always' to 'never'. Only for the measurement of job insecurity was a 5-point scale used. Working with different answer formats is advised by Podsakoff et al. (2012, pp. 887–888) and Gardner et al. (1998) as a method of reducing common method bias.

The measure of **autonomy** includes 4 items with questions such as '*I can arrange my own work pace*' and '*I can decide for myself how I perform my work*'. The items were based on the 'Nova-Webb' survey (Schouteten & Benders, 2004). The internal reliability of the scale was high ( $\alpha:0.83$ ).

**Innovative work behaviour** was measured using a 9-item scale adopted from De Jong & Den Hartog (2010) including 4 items related to idea generation (e.g. '*How frequently do you wonder how things can be improved?*'), 3 items related to idea championing (e.g. '*How frequently do you make important organisational members enthusiastic about innovative ideas?*') and 2 items referring to idea implementation (e.g. '*How frequently do you systematically introduce innovative ideas into work practices?*'). The dimensionality of these items was analysed using Confirmatory Factor Analysis (CFA). A single-factor solution resulted in a poor fit (chi square 877, df. 28, RMSEA 0.18). A two-factor solution distinguishing between idea generation and idea implementation resulted in a better fit (chi square 157, df. 26, RMSEA 0.07). As studies sometimes point to the existence of three dimensions - idea generation, idea championing and idea implementation (e.g. Janssen, 2000) - a 3-factor solution was also modelled, which resulted in the best fit (chi square 133, df. 14, RMSEA 0.07). Yet, given the high inter-correlation between the idea championing and the idea implementation factors (0.96), we chose to optimise the two-factor solution by allowing the errors of the items referring to idea championing and idea implementation to correlate. As the last item ('*How frequently do you put effort in the development of new things?*') loaded on both factors, we deleted the item from the analysis. This resulted in a model with a good fit (chi square 55, df. 20, RMSEA 0.04). The internal reliabilities of the two dimensions were high ( $\alpha:0.91$  and  $\alpha:0.93$ ). The IWB structure in this study was identical to that of Dorenbosh et al. (2005).

**Work engagement** is measured using a 7-item scale developed by Schaufeli, Bakker and Salanova (2006) including 2 items related to vigour (e.g. '*When I get up in the morning, I feel like going to work*'), 3 items related to dedication (e.g. '*I am enthusiastic about my job*'), and 2 items related to absorption (e.g. '*I feel happy when I am working intensely*'). Using CFA, the dimensionality of the work engagement measure was tested. A single-factor solution with free parameter estimates and uncorrelated errors resulted in a poor fit (chi square 230, df. 14, RMSEA 0.13). A second-order CFA with three factors (vigour, dedication and absorption) and one second-order latent variable (work engagement) with uncorrelated errors resulted in a better fit (chi square 41, df 11, RMSEA 0.06). Yet, given the high inter-correlation between two of the three latent variables (vigour and absorption: 0.87), we fitted a second-order factor CFA with two first-order latent variables. We constrained the loadings of the two first-order latent variables to be equal, constrained the loadings of the theoretical dimensions to be equal, and correlated the errors of the items related to absorption and two of the items refer-

ring to dedication. The resulting model showed an excellent fit (chi square 25, df. 13, RMSEA 0.03). The internal reliabilities of the two dimensions were high ( $\alpha$ :0.81 and  $\alpha$ :0.85).

**Job insecurity** was measured using a single item. The respondents were asked how they evaluated their chances of becoming unemployed for four weeks in the following 12 months. As a great number of respondents felt very secure about their job and their employment in the coming 12 months, the response on this variable did not meet the normality assumption. Yet, building on the results of Lei and Lomax (2005), we should not be too concerned with the bias of the estimates in SEM modelling with non-normal variables. We controlled the models by including a log transformation of the job insecurity variable instead of the original variable. These additional analyses confirmed the validity of our findings.

### **3.3 Common method variance**

As the data for this research were all measured at the employee level using a single method, the results of the analysis and the estimates might be biased because of 'common method variance' (CMV), i.e. variance stemming from the use of a single source of information (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). CMV could inflate correlations and could lead to incorrect or inflated results. Although several statistical methods were developed in order to assess or model the impact of CMV (e.g. Harman's single factor test), proactive strategies for avoiding CMV are still preferred (Conway & Lance, 2010). In line with the suggestions of Podsakoff et al. (2003), we tried to reduce the bias of CMV by mixing up questions related to various concepts, using different response categories throughout the questionnaire and including temporal separations between similar questions. Furthermore, we assessed the presence of a method effect by including a latent 'common method factor' in the structural equations model (Chang, van Witteloostuijn, & Eden, 2010; Podsakoff et al., 2003). The loadings on this method factor were statistically insignificant and the relations between the variables were not affected in any way by the inclusion of this common method factor. We therefore conclude that it is unlikely that a method effect seriously biases the results of our analysis.

### **3.4 Analysis – SEM**

We used structural equations modelling (SEM) analysis using the SAS 9.3 software (PROC CALIS). This methodology is particularly adapted to analyse direct and indirect relations between variables (Hatcher, 1994; Schumacker & Lomax, 2012). In the analysis, different models are compared regarding their overall fit and the estimated coefficients. Model fit is assessed using a series of indicators that sometimes have cut-off points defined by the literature, while others are used for model comparison. As such, the chi-square is inspected in rela-



tion to the degrees of freedom of a model. As a rule of thumb, the chi-square/df ratio should be less than 2 (Hatcher, 1994). The chi-square is sensitive to sample size (Hooper, Coughlan, & Mullen, 2008; Schumacker & Lomax, 2012). Therefore, other indices are used to assess the model fit. We report the Goodness-of-Fit Index (GFI, >0.95), the Adjusted Goodness-of-fit index (adjusted for the degrees of freedom) (AGFI, >0.95), the Root Mean Square Error of Approximation (RMSEA, <0.05), the Standardised Root Mean Square Residual (SRMR, <0.05), the Comparative Fit Index (CFI, >0.95) and the Non-Normed Fit Index (NNFI, >0.95). These tests are used to assess the overall fit of the various models under study. Secondly, the tests are used in order to compare the fit of the various models proposed. The comparison of models is also performed using the 'chi square difference test' for nested models.

### 3.5 Analytical strategy

The different hypotheses were tested first of all through the comparison of multiple models and the inspection of their overall fit indices and secondly through the individual relation estimates. In a first step, a measurement model was fitted that included covariance terms between all (second-order) latent variables. This analysis showed that one item related to dedication (*'my work inspires me'*) loaded high on both dedication and Innovative Work Behaviour. Given the fact that 'inspiration' can be interpreted ambiguously and in order to avoid confusion between the dedication and IWB scale, this item was dropped from the analysis. The resulting measurement model showed a good fit (chi square 248, df. 128, RMSEA 0.0320, SRMR 0.0346, AGFI 0.9620).

This measurement model also showed that there is a significant negative covariance between autonomy and job insecurity. Given the fact that we aim to study the effect of job insecurity on IWB, controlling for direct and indirect effects of job autonomy and work engagement, we decided to include this covariance term in our model. As such, the observed relations are controlled for job autonomy and for the negative covariance between job autonomy and job insecurity.

In a second step, a full reference model was fitted on the data. This model included all hypothesised relations and corresponded to the model shown in Figure 1. Subsequently, different models were fitted in which individual relationships were eliminated from the model (restricted to zero). If the overall fit indices of a restricted model show a significant decrease in model fit (using the chi-square difference test), this indicates that the eliminated relationship should be included in the model. Model 2 refers to a model in which the effect of job insecurity is fully mediated by work engagement (refuting hypothesis 1), model 3 refers to a model in which there is no indirect effect of job insecurity (refuting hypothesis 4), model 4 reflects a model in which the effect of autonomy is fully mediated (refuting hypothesis 2) and,

finally, model 5 refers to a model in which there is no direct effect of autonomy on IWB (refuting hypothesis 3).

Before the models were fitted, the descriptive statistics were inspected (Table 1). Most variables are positively correlated with each other, except for 'job insecurity', which has a significant negative correlation with all other variables. Given the moderate inter-correlations between the variables, multicollinearity is not a concern. Only the correlation between the two IWB dimensions is very high. As they are included in the model as a second-order latent IWB factor, this high correlation will not affect the estimates between the other variables and the IWB variable. Other IWB studies similarly compute single factors for IWB when the different dimensions are highly correlated (e.g. Janssen, 2001, 2003).

**Table 1** Correlations, means, standard deviations & Cronbach alphas

|                       | # items | Range | M    | SD   | 1      | 2      | 3      | 4      | 5      | 6      |
|-----------------------|---------|-------|------|------|--------|--------|--------|--------|--------|--------|
| 1 Autonomy            | 4       | 1-7   | 4.63 | 1.33 | (0.83) |        |        |        |        |        |
| 2 Job insecurity      | 1       | 1-5   | 0.43 | 0.94 | -0.16* | -      |        |        |        |        |
| 3 Vigour-Absorption   | 4       | 1-7   | 5.48 | 0.80 | 0.26*  | -0.11* | (0.81) |        |        |        |
| 4 Dedication          | 3       | 1-7   | 5.75 | 0.93 | 0.30*  | -0.14* | 0.67*  | (0.85) |        |        |
| 5 Idea Generation     | 4       | 1-7   | 4.52 | 1.10 | 0.38*  | -0.16* | 0.19*  | 0.26*  | (0.91) |        |
| 6 Idea Implementation | 3       | 1-7   | 3.90 | 1.17 | 0.32*  | -0.12* | 0.22*  | 0.29*  | 0.74*  | (0.93) |

\*  $p < 0.01$ . Cronbach alphas in brackets on the diagonal.

## 4. Results

### 4.1 Model comparison

In Table 2, the fit indices of the several models are shown. The first full model (M1) fits the data well. The chi-square degrees of freedom ratio (column 3) is lower than the cut-off point of 2 and all the other fit indicators show a good fit. Comparing this model with the restricted models shows that all alternative models (M2 – M5) fit the data significantly less than the full reference model. The decreased fit is reflected in a significant decrease in  $\chi^2$  (last column) and lesser fit indicators such as the GFI, AGFI, SRMR, RMSEA, CFI and NNFI (see Table 2). These analyses show that the full model including all hypothesised relations fits the data best.

**Table 2** SEM results, model comparison

|                           | X2  | DF  | X2/df<br>(<2.0) | GFI<br>(>0.95) | AGFI<br>(>0.95) | SRMR<br>(<0.05) | RMSEA<br>(<0.06) | CFI<br>(>0.95) | NNFI<br>(>0.95) | X2 diff. |
|---------------------------|-----|-----|-----------------|----------------|-----------------|-----------------|------------------|----------------|-----------------|----------|
| M1: Full model            | 264 | 142 | 1.860           | 0.971          | 0.962           | 0.033           | 0.031            | 0.988          | 0.986           |          |
| M2:<br>Hyp 1<br>incorrect | 270 | 143 | 1.885           | 0.971          | 0.961           | 0.035           | 0.031            | 0.988          | 0.986           | M1>M2*   |
| M3:<br>Hyp 4<br>incorrect | 272 | 143 | 1.903           | 0.970          | 0.961           | 0.035           | 0.031            | 0.988          | 0.985           | M1>M3*   |
| M4:<br>Hyp 2<br>incorrect | 343 | 143 | 2.402           | 0.963          | 0.951           | 0.077           | 0.039            | 0.981          | 0.977           | M1>M4*   |
| M5:<br>Hyp 3<br>incorrect | 346 | 143 | 2.419           | 0.963          | 0.951           | 0.082           | 0.039            | 0.981          | 0.977           | M1>M5*   |

\* X2 difference test performed with M1 as a reference. \* p<0.01.

## 4.2 Fitted model

In Figure 2, we plotted the fitted model (model 1) with the estimated coefficients. Hypothesis one on the negative relation between job insecurity and IWB is confirmed ( $\beta$ :-0.07, SE: 0.03). The same goes for hypothesis two on the positive relation between autonomy and IWB ( $\beta$ :0.30, SE: 0.03). Both relations reflect the anticipated indications, yet when comparing the effect sizes, we note that autonomy is more strongly related to IWB than job insecurity. Hypothesis three on the mediating effect of work engagement in the relation between autonomy and IWB is also confirmed. Autonomy is positively related to work engagement ( $\beta$ :0.31, SE: 0.03), which, in turn, is positively related to IWB ( $\beta$ :0.16, SE: 0.04). Hypothesis four, finally, is also confirmed as job insecurity is negatively related to work engagement ( $\beta$ :-0.09, SE:0.03), which is in turn positively related with IWB ( $\beta$ :0.16, SE: 0.04).

Building on our inspection of the measurement model (mentioned earlier), we decided to include a covariance term between job insecurity and job autonomy. This covariance term was negative and significant ( $\beta$ = -0.17, SE: 0.03). Insecure jobs are significantly less rich in terms of autonomy than secure jobs.

Our fitted model shows that both direct and indirect relations exist between autonomy and job insecurity on the one hand, and IWB on the other. In Table 3, we calculated the direct, indirect and total effects of these antecedents of IWB. As hypothesised, the positive direct relationship between job autonomy and IWB is further strengthened by an indirect positive relationship through enhanced levels of work engagement. Given the modest relation between work engagement and IWB, the indirect effect is relatively weak. The same goes for the effect of job insecurity. Job insecurity primarily affects work engagement through a direct

negative relation (-0.07). The indirect effect of job insecurity on IWB, through lower levels of work engagement, is weak. Nevertheless, given the direct negative relation between job insecurity and IWB, the total negative relation between job insecurity and IWB amounts to approximately -0.08. It should further be noted that the negative relation between job insecurity and IWB remains, even after controlling for the negative covariance between job insecurity and autonomy.

**Table 3**      **Direct and indirect relations**

|                                  | <b>Direct effect</b> | <b>Indirect effect</b> | <b>Total Effect</b> |
|----------------------------------|----------------------|------------------------|---------------------|
| <i>Innovative Work Behaviour</i> |                      |                        |                     |
| Autonomy                         | 0.297                | 0.050                  | 0.347               |
| Job Insecurity                   | -0.065               | -0.014                 | -0.079              |

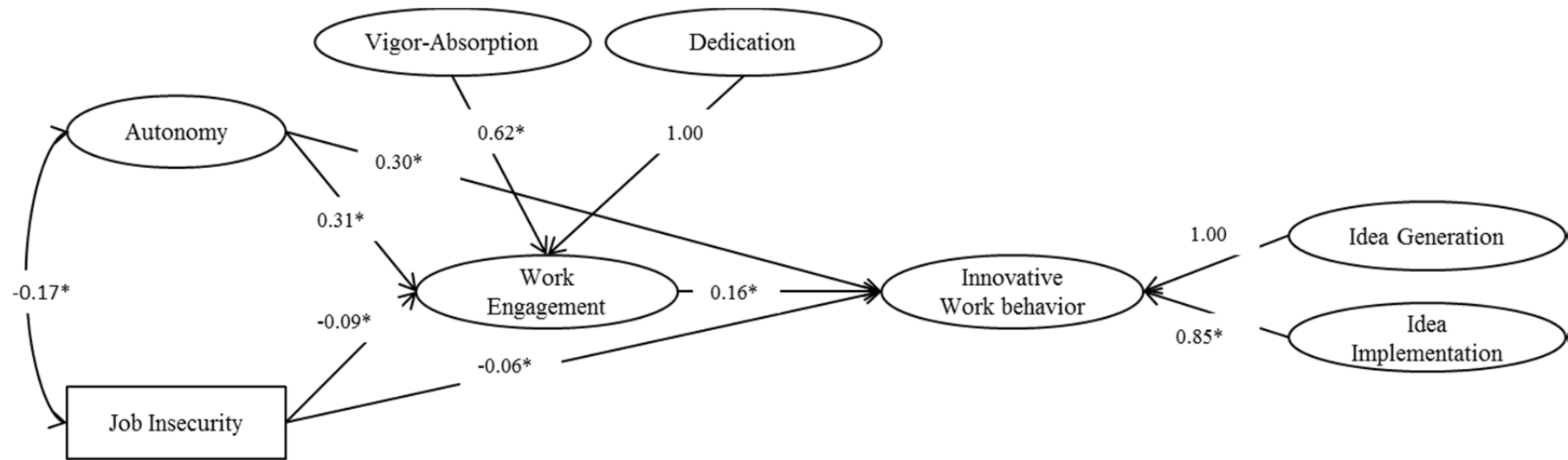


Figure 2 Final model

## 5. Discussion

Throughout our study, we observe that job insecurity is negatively related to the innovative behaviour of employees, both directly and indirectly through work engagement. Autonomy, on the other hand, has a positive (direct and indirect) relation with IWB, and the sizes of the estimated effect are larger than the ones for job insecurity.

These findings suggest that job insecurity should not be ignored as a factor in employee innovation research. Up until now most review articles on employee innovation (or creativeness) have ignored this factor (Hammond et al., 2011; Shalley & Gilson, 2004; Shalley et al., 2004). Together with Probst et al. (2007), this study demonstrates the importance of including job insecurity in innovation research. Indeed, job insecurity negatively affects the overall work engagement of employees, making them less willing to invest in innovative behaviours. Moreover, the fact that innovation processes are frequently disturbing for co-worker relations (Janssen et al., 2004; Janssen, 2003), are lengthy and require a considerable extra-role investment of employees (Tuominen & Toivonen, 2011) further decreases the likelihood that job-insecure employees will engage in innovative behaviours.

The size of the negative relation is nevertheless rather small, in particular compared to the effect sizes of the positive direct and indirect relation of job autonomy with IWB. Obviously, job autonomy is a much more crucial antecedent of IWB than job insecurity. Given the theoretical arguments that suggest a negative relation between job insecurity and IWB, the small effect of job insecurity may seem surprising. Our model however controls for the negative covariance between job insecurity and job autonomy. The relatively small negative effect sizes between job insecurity and the outcomes are thus controlled in relation to the fact that employees in insecure jobs generally have less discretion regarding their work methods, which is an important enabler of employee innovation. Such a negative correlation between job insecurity and job autonomy was also observed in previous research, although never explicitly modelled (Feather & Rauter, 2004; Mauno et al., 2007; Schreurs, van Emmerik, Note-laers, & De Witte, 2010).

In line with previous research findings, we found a positive relation between autonomy and IWB. This relation was partially mediated by a positive effect on work engagement. Giving employees a certain discretion in how they approach their work enables them to find creative solutions, develop, propose and implement them in the workplace.

## 6. Implications

This study has several implications for the research literature, HR practitioners and policy makers. For the research literature, this study shows that job insecurity is a significant factor when it comes to employee innovative behaviour. Although its impact is limited in scope, the literature should recognise job insecurity as a factor for employee innovative behaviour. In doing so, the employee innovation literature can build on the extensive literature on the effects of job insecurity for employee outcomes and their findings on moderator effects in the relation between job insecurity and employee outcomes (Sverke et al., 2002).

In terms of implications for HR practice, this research shows that the job content (job autonomy) could serve as a major trigger for employee engagement and Innovative Work Behaviour. Employees in jobs who are given a degree of discretion over their work are both more engaged and willing to take initiatives regarding workplace innovation. HR managers aiming to stimulate employees for innovation should focus on structural changes in the job content. Providing insecure jobs to employees might partially offset this positive effect as it is related to less engaged employees and keeps them from proposing and implementing new innovative ideas in their jobs. In this same way, the overall rise in job insecurity in Europe can be seen as a problem in the context of a Europe 2020 (European Commission, 2010) strategy focusing primarily on innovation.

## 7. Limitations

This study has some limitations. The first limitation is the cross-sectional character of the data. As a consequence, we cannot establish firm causal relations in the hypothesised model. Next, a single method is used to measure all the concepts in this analysis. Different authors suggested that this could inflate associations between concepts, yet others state that this problem is not to be overestimated (Spector, 2006). By taking into account the recommendations of Podsakoff et al. (2003), we sought to prevent common method bias and assessed whether it significantly impacted our results. Furthermore, job insecurity was measured using a single item. Single-item measurements are generally seen as a limitation. Job insecurity is nonetheless frequently measured using single-item scales (De Witte, 1999; Mohr, 2000) and the meta-analysis of Sverke et al. (2002) found that studies using single-item measurements for job insecurity report weaker relations with employee outcomes, indicating that using a single-item measurement can lead to a small under-estimation of the effect size. Also, Gardner et al. (1998) indicated that the inclusion of single-item scales with a different response format can prevent common method bias (Gardner et al., 1998). Nevertheless, future research could include a more elaborate measurement of job insecurity and could distinguish between vari-

ous conceptualisations of job insecurity such as between qualitative and quantitative job insecurity (Hellgren, Sverke, & Isaksson, 1999).

## 8. Conclusion

While Europe aims to become a competitive and innovative union, workers in the EU are confronted with an increasing sense of job insecurity. Whether job insecurity affects the EU's ambition of innovation is a rarely treated, yet highly significant policy issue. In this article we treat this question at the micro level and study the relation between job insecurity and IWB. In doing so, the analysis takes into account the effect of two main drivers for employee innovation: work engagement and job autonomy (Hammond et al., 2011).

The analyses show that job insecurity is negatively related to IWB, both directly and indirectly through lower levels of work engagement. The relation of job autonomy to IWB is also partially mediated by work engagement, but the coefficients here are positive and considerably larger than the negative coefficients of job insecurity. Further, a negative association was found between job insecurity and job autonomy.

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## **Chapter 8 Different dimensions of job autonomy and their relation to work engagement & innovative work behaviour: The more the merrier?**

**Abstract:** Job autonomy is a key enabling factor for employee engagement and beneficial employee behaviour. Although job autonomy is frequently viewed as a multi-dimensional concept, there has been little discussion about different dimensions of job autonomy and their relation to employee outcomes. We here study the relation of autonomy regarding the (1) work method, (2) work scheduling, (3) work time and (4) work place with two employee outcomes: work engagement and Innovative Work Behaviour (IWB). The results show that all studied dimensions of autonomy are bivariately related to higher levels of work engagement and IWB. Yet, in a simultaneous analysis, most effects become insignificant. For work engagement, only the effects of work method and work scheduling autonomy are statistically significant. For IWB, work method and work place autonomy play a positive role. The currently popular work time autonomy thus only contributes to enhanced work engagement and IWB insofar as it results in greater work method autonomy.

**Keywords:** Job autonomy, work method autonomy, work time autonomy, Innovative Work Behaviour, work engagement

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# 1. Introduction

Job autonomy is important, if not crucial for employee outcomes. In the Job Characteristics Model of Hackman & Oldham (1976), job autonomy was already identified as one of the principal ingredients for motivating jobs. Later developed models such as Karasek's Job-Demands Control model (1979), and Bakker and Demerouti's Job-Demands Resources model (2007) similarly identified job autonomy as a key enabling factor for positive employee outcomes. Everybody seems to agree that employees should be given a considerable degree of discretion in the performance of their job.

Disagreement nevertheless arises when managers, employees and employee representatives discuss the introduction of job autonomy. This disagreement relates to a fundamental question: what should be understood by job autonomy? Should employees be given autonomy on how they organise the work, on what to do when, on when to take their vacation, on when to come to work, on who to cooperate with? And which type of autonomy should be given priority? It is the objective of this article to unravel the job autonomy concept and empirically test the interplay between the different dimensions of job autonomy and employee outcomes.

Decades ago, the multi-dimensional nature of job autonomy was already established (Brady, Judd, & Javian, 1990). In 1985, Breugh (1985) already stressed the need to distinguish between three different dimensions of job autonomy and later other researchers made similar attempts (e.g. De Jonge, Landeweerd, & Van Breukelen, 1994; Morgeson & Humphrey, 2006; Wall, Corbett, Clegg, Jackson, & Martin, 1990). Yet the current empirical articles tend to ignore this multidimensionality, which causes some confusion when the research findings are to be applied. In this study, we aim to pick up with the previous research on the multi-dimensional nature of job autonomy and distinguish between four different dimensions: (1) work method autonomy, (2) work scheduling autonomy, (3) work time autonomy and (4) locational autonomy. We hereby go beyond previous multi-dimensional conceptualisations of job autonomy and make a bridge to the currently popular literature on new forms of work organisation such as flexitime or telework (Popma, 2013).

We study the effect of these different dimensions of job autonomy on two important employee outcomes: work engagement (WE) and Innovative Work Behaviour (IWB). WE is a positive employee state of mind in which the employee feels that the work runs smoothly. As it contributes to the personal growth and development of employees, it can be seen as beneficial for the worker (Bakker, Schaufeli, Leiter, & Taris, 2008). IWB is not a state of mind, but refers to actual behaviour of employees related to innovations. Employees who propose and develop new ideas in their workplace are generally considered an important asset for organi-

sations (Appelbaum, Bailey, Berg, & Kalleberg, 2000; Robinson & Schroeder, 2004). This study thus includes an employee outcome focused on the workers benefit (WE) and another focused more on the organisational benefit (IWB).

This article makes several contributions to the literature. First, it seeks to go beyond the one-dimensional vision on job autonomy and differentiates between different dimensions of autonomy, both conceptually and empirically. Second, it hereby links insights from more traditional job design research with currently popular experiments regarding flexible working times and other dimensions of flexibility. Third, this article includes employee outcomes focused on the employee's benefit (work engagement) and the organisations' benefit (IWB).

## 2. Job autonomy

For the definition of job autonomy, the literature traditionally refers to the Job Characteristics model of Hackman & Oldham (1980). They define job autonomy as '*The degree to which the job provides substantial freedom, independence, and discretion to the individual in **scheduling** the work and in determining the **procedures** to be used in carrying it out*' (Hackman & Oldham, 1976, 1980). Hackman and Oldham (1976, 1980) explicitly refer to the work procedures and the work schedule as two job aspects that employees can experience discretion about. Their definition of job autonomy is in that sense larger than the earlier definition of Turner and Lawrence (1965), which defined job autonomy as '*the amount of discretion the worker is expected to exercise in carrying out assigned work activities*'. Other definitions of job autonomy such as the ones proposed by DeCotiis and Koys (1980) or Nicholson (1984) also include the discretion of employees in choosing their work goals.

All other proposed definitions hint at a certain multi-dimensional character of the job autonomy concept. Therefore, Breugh (1985) proposed differentiating between three dimensions of job autonomy: work method, work scheduling and work criteria autonomy. *Work method autonomy* refers to the degree of individual decision latitude concerning the procedures, methods and ways in which the employee performs his work. *Work scheduling autonomy* refers to the control employees have over their work schedule, the work timing and sequencing. *Work criteria autonomy* refers to the degree in which employees can choose or modify the work goals and the evaluation criteria. Studies on whether these different dimensions of autonomy could empirically be differentiated found some conflicting results. Breugh (1989, 1999) found confirmation, while others found indications that a single autonomy scale is to be preferred (Brady et al., 1990).

At a later date, other researchers proposed alternative (yet sometimes very similar) dimensionalities. As such we can refer to the Maastricht Autonomy Questionnaire (Jan de Jonge,

Mulder, & Nijhuis, 1999; Jeurissen & Nyklíček, 2001), which discriminates between autonomy regarding the *method*, the work *pace* and the work *goals*. Another proposal was advanced by Jackson et al. (1993) and later used in a follow up study by Wall et al. (1995). Building on Karasek's (1979) conceptualisation of job control, they proposed distinguishing between *time control* (work schedule) and *method control*. More recently, Morgeson & Humphrey (2006) developed a questionnaire looking at three aspects of job autonomy: work *scheduling*, *decision making* and work *method* autonomy.

The overlap of these proposed dimensionalities is considerable, yet some divergences occur. There is an overall consensus that job autonomy includes a kind of work *method* autonomy. This refers to the decision latitude of employees on how to perform the work tasks. Other authors correctly use the concept of *task autonomy* or task discretion to indicate that they only focus on this aspect of job autonomy (e.g. Langfred & Moye, 2004; Yan, Chong, & Mak, 2010). Work *scheduling* is also included by most authors, although De Jonge et al. (1994) here refer to *work pace* as a dimension. Indeed, these concepts could be divergent in the sense that work scheduling autonomy could refer to when to do what, while work pace autonomy could refer to the speed in which the tasks should be performed. Some divergence is also found regarding the inclusion of autonomy in relation to the work goals, or to the work criteria. It is included by Breugh (1985) and De Jonge et al. (1994), but not by the other authors.

Since most of these conceptualisations are developed in the 80s or 90s, some contemporary changes in the world of work are not well covered by the proposed conceptualisations of job autonomy. Currently, vigorous debates on the subject of flexitime and telework are taking place (e.g. Grzywacz, Carlson, & Shulkin, 2008; Kattenbach, Demerouti, & Nachreiner, 2010; Popma, 2013). In flexitime arrangements (also called flex-time or flexible working hours), workers have autonomy in choosing the beginning and finishing hours of their work day in a flexible way. It can be rightfully argued that this new form of employee discretion over a part of the job should be included in the job autonomy definition. And indeed, in the Barney & Elias' article (2010), flexitime is explicitly presented as a type of job autonomy. It differs from work scheduling autonomy as the latter refers to autonomy on how to order tasks. A similar argument can be made for telework. Telework refers to the possibility for employees performing their job from their house (Bailey & Kurland, 2002; Mahler, 2012). Using the modern ICT technologies, more and more employees are given a degree of discretion over where they perform their job tasks. This aspect can, just as flexitime, be considered as a form of autonomy the employee enjoys in relation to a certain aspect of his job.

In this article, we connect with this literature on the different dimensions of autonomy, yet take it further by also considering popular aspects of flexitime and telework. As such, we distinguish between a total of four dimensions of job autonomy. First, work **method** autonomy

refers to the discretion employees are given on how to perform the work tasks in terms of procedures and work methods. Second, *work scheduling autonomy* refers to the discretion employees have on when to perform which work task. Third, *work time autonomy* refers to the discretion employees have on when to stop and start working. Finally, *locational autonomy* refers to the discretion employees have on where to perform the work tasks.

By including work time and locational autonomy in the analysis, this article contributes to the discussion on so-called 'new types of working' and their (presumed) positive contribution for the employee (work engagement) and the organisation (Innovative Work Behaviour) (Bailey & Kurland, 2002; Gupta & Eriksson, 2004; Popma, 2013). The literature focusing on these two modern dimensions of job autonomy (working time and working place) generally studies their effects in isolation and does not control for other dimensions of job autonomy in their analysis (Barney & Elias, 2010; Kattenbach et al., 2010; Kauffeld, Jonas, & Frey, 2004). We nevertheless suspect that these different dimensions of job autonomy tend to coincide in the workplace. Employees given a considerable autonomy of discretion over their working time and place will most likely also experience substantial autonomy regarding their working methods. Indeed, several studies confirmed that flexible work practices such as working from home, or flexitime effectively impact the degree of work method autonomy employees possess (Hicks & Klimoski, 1981; Kelliher & Anderson, 2008). It is consequently important to disentangle exactly which dimension(s) of job autonomy is effectively related to the engagement and innovative behaviour of employees.

### **3. Work engagement & innovative work behaviour**

Traditionally, work engagement (WE) is defined as '*a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption*' (Schaufeli & Bakker, 2004). WE is not a momentary state of mind, but is persistent and not directly focused on a particular object, event, individual or behaviour (Bakker & Demerouti, 2008; Salanova, Agut, & Peiro, 2005). WE consists of three dimensions: vigour, dedication and absorption. *Vigour*, refers to a mental state of employees characterised by high levels of energy, resilience, willingness to invest effort and persistence in the face of problems. *Dedication* is characterised by an employee's enthusiasm and pride about work, the feeling of receiving inspiration from work and an overall sense of significance related to work. *Absorption* refers to a state of mind in which the employee is highly concentrated and captivated by his/her work. Time flies and one has difficulty in detaching oneself from the work.

WE has been linked to various positive organisational outcomes in terms of productive employee behaviour. As such, Salanova et al. (2005) used information about employees and

customers to show that WE predicted employee performance and customer loyalty. Saks (2006) used data relating to 102 employees with very different job and organisational attachments to show that WE is related to outcomes like job satisfaction, organisational commitment or organisational citizenship behaviour. In this last study, WE actually mediated the relations between the job characteristics as antecedents and the outcomes.

Innovative Work Behaviour (IWB) is defined as: *'Innovative work behaviour, is all employee behaviour aimed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures, new and intended to benefit the relevant unit of adoption'* (De Spiegelaere, Van Gyes, & Van Hootegeem, 2012). IWB refers to the behaviour of employees that directly and indirectly contributes to the development and introduction of innovations. Although IWB is comparable to employee creativity, both concepts cover distinct realities. Employee creativity can be defined as the production of novel and useful ideas or solutions in the workplace (Amabile, 1988). IWB and creativity differ for two main reasons. First, creativity focuses exclusively on the generation of ideas, while IWB encompasses all employee behaviour related to different phases of the innovation process (Kanter, 1988). Second, creativity traditionally refers to the creation of something absolutely new. IWB on the contrary focuses on something new for the relevant unit of adoption. Employees who take for example the initiative to copy successful work habits from other departments are clearly staging important innovative behaviour, while not at all are engaging in workplace creativity.

Innovative work behaviour and innovative employees are considered to be an important asset for organisations. Employees have an important, yet frequently tacit (Polanyi, 1966) knowledge of the production process that enables them to identify problems and assess solutions swiftly (Appelbaum et al., 2000). Further, the innovative ideas of employees are relatively cheap (if not free) and are frequently context dependent and therefore not easily copied by competitors (Robinson & Schroeder, 2004). As a result, managers generally point to internal sources of information and knowledge (which includes employees) as being important for the development of innovations (Laursen & Salter, 2004).

#### **4. The impact of job autonomy on work engagement and IWB**

In the following section we will discuss the literature on the relation between the previously identified dimension of job autonomy and the dependent variables. As both the employee innovation and work engagement literature are relatively young (Bakker et al., 2008; Zhou & Shalley, 2003), the hypothesis will be largely based on the overall theoretical proposition that job autonomy is beneficial for employee development and motivation. Various theoretical

models advanced job autonomy as a key enabling factor for employee motivation and learning. We here refer to the previously mentioned job characteristics model (Hackman & Oldham, 1980), the Job Demands-Control model (Karasek & Theorell, 1990) and the Job Demands-Resources model (Bakker & Demerouti, 2007).

#### **4.1 Work method autonomy**

Work method autonomy refers to employee discretion when it comes to the methods and procedures on how the work is performed (Breugh, 1985). Previously mentioned job design models all include this dimension of job autonomy in their prediction of positive motivational effects. Work method autonomy provides the employees with a sense of control over their work and is likely to increase the overall work engagement of employees. It enables them to become deeply involved in their work. Several studies and a recent meta-analysis confirmed the positive association between autonomy and work engagement (Bakker & Demerouti, 2008; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Halbesleben, 2010). The same goes for IWB. Work method autonomy gives employees the necessary space to experiment with alternative work procedures and methods that they can propose as an innovation in a later stadium. Various empirical studies have confirmed this positive effect of work method autonomy on employee innovative behaviour (Shalley & Gilson, 2004; Zhou, 1998). We consequently hypothesise that work methods autonomy will be positively related to IWB and work engagement.

*Hypothesis 1a: Work method autonomy is positively related to work engagement.*

*Hypothesis 1b: Work method autonomy is positively related to IWB.*

#### **4.2 Work scheduling autonomy**

Work scheduling autonomy refers to the discretion employees have about when to perform which task (scheduling, sequencing) (Breugh, 1985; Schieman, 2013; Wall et al., 1990). This aspect of job autonomy is closely related to the work method autonomy and frequently studies include them in a single measure of job autonomy (e.g. Sadler-Smith, El-Kot, & Leat, 2003; Volmer, Spurk, & Niessen, 2012). The theoretical impact of work scheduling autonomy is similar to the one of work method autonomy. It gives employees a sense of control over the work and enables them to react to different job demands by flexibly changing the sequencing of their tasks. All this would increase the engagement with which employees approach their work tasks. Schieman (2013) compared the effect of work scheduling autonomy with the effect of work method autonomy and observed that both tend to have a negative relation to work pressure, whereby the relation to work method autonomy was considerably larger

than the relation to work scheduling autonomy. As for Innovative Work Behaviour, discretion in work scheduling could inspire the employees in how the work can be differently organised and optimised. We hypothesise that work scheduling autonomy will positively affect both work engagement and IWB.

*Hypothesis 2a: Work method autonomy is positively related to work engagement.*

*Hypothesis 2b: Work method autonomy is positively related to IWB.*

### **4.3 Work time autonomy**

Work time autonomy refers to the discretion of employees on when to stop and start working. Barney & Elias (2010) found indications that working time autonomy is positively related to both intrinsic as extrinsic motivation. Kattenbach et al. (2010) similarly see flexitime as a type of job autonomy. In their analysis, they found a significant negative effect of work time autonomy on the tiredness of employees. Further Grzywacz et al. (2008) found working time flexibility to negatively affect stress and burnout. Controlling for work method autonomy, Origo and Pagani (2008) found a small but significant positive effect of working time flexibility on the overall job satisfaction of employees. Obviously, these studies identify work time autonomy as a job resource that enables employees to cope with high demands and can contribute to the overall work engagement of employees. One study of Kauffeld et al. (2004) confirmed that working time autonomy is accompanied by higher job resources, but could not find a significant relation to intrinsic motivation.

Regarding Innovative Work Behaviour, there is virtually no literature available on the effect of working time autonomy. Working time autonomy is also not included in various general job autonomy scales that positively affect employee creativity and innovativeness (Battistelli, Montani, & Odoardi, 2013; Chang, Huang, & Choi, 2012; Volmer et al., 2012). Qualitative studies on the opinions of managers about working hours nevertheless show that they believe that working time autonomy will create an overall setting in which employee creativity can thrive (MacEachen, Polzer, & Clarke, 2008). Not controlling for other dimensions of autonomy, Kauffeld et al. (2004) found a significant difference in terms of quality improvements made by the employees. Employees in flexible working time arrangements scored higher on this variable than employees working in traditional schemes. Based on these previous research insights, we propose the following hypotheses:

*Hypothesis 3a: Work time autonomy is positively related to work engagement.*

*Hypothesis 3b: Work time autonomy is positively related to IWB.*



#### **4.4 Locational autonomy**

Just as work time autonomy, locational autonomy (autonomy in deciding where to perform the job) has only recently gained popularity and is therefore not included in the older multi-dimensional conceptualisations of job autonomy (Breugh, 1985). We here approach working place autonomy with a special focus on remote working, or working from home. This so-called telework has attracted considerable research attention (Bailey & Kurland, 2002). Although promoted as a new way of working, which would decrease work-family conflicts and foster the job satisfaction of employees, study results are ambiguous on the relation between working from home and, for example, work engagement (Popma, 2013). Some studies indeed note higher job satisfaction (e.g. Baruch, 2000), while others point to negative consequences such as feelings of isolation (e.g. Cooper & Kurland, 2002). Using data from a five day diary study, Ten Brummelhuis et al. (2012) found that working from home was positively related to work engagement, suggesting that discretion over where people work enables them to organise their work more effectively and become more engaged.

In relation to innovative behaviour, Martínez-Sánchez et al. (2008) found a clear positive relation between the adoption of telework and innovative performance on the organisational level. An experimental study by Dutcher (2012) showed that telework had a positive productivity effect on creative tasks, while it had a negative productivity effect on dull tasks. Indeed, the change of work environment might stimulate divergent thinking and necessitate creative problem solving (Bentley & Yoong, 2000; Shockley & Allen, 2012). On the negative side, Taskin & Bridoux (2010) question whether forms of teleworking might negatively affect the knowledge transfer between employees. In spite of this divergence in the literature, we propose a hypothesis in which locational autonomy is positively related to IWB.

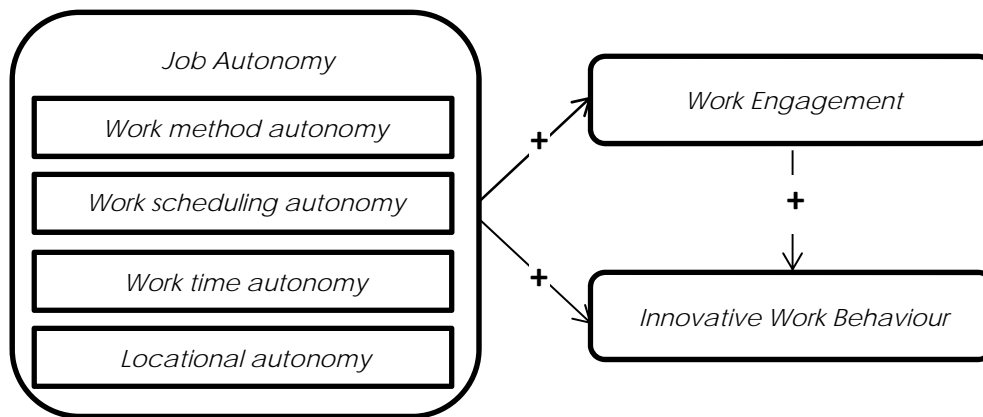
*Hypothesis 4a: Locational autonomy is positively related to work engagement.*

*Hypothesis 4b: Locational autonomy is positively related to IWB.*

#### **4.5 Work engagement as a mediator for IWB**

In the employee creativity and innovativeness research, it is frequently assumed that antecedents such as job autonomy affect employee' innovativeness through changed levels of employee motivation or work engagement (Shalley & Gilson, 2004; Shalley, Zhou, & Oldham, 2004). These studies, in other words suggest the existence of important mediation effects in the relation between job characteristics and employee innovation. We here build on this suggestion by studying both the direct effects of autonomy on IWB and the indirect (medi-

ated) effects through work engagement. Taken together, the model under research is illustrated in Figure 1.



**Figure 1** Model

## 5. Method

### 5.1 Sample

The employee level data were collected using a face-to-face standardised questionnaire. The sample consisted of Flemish workers from five different industries: banking, retail, hotels and restaurants, chemical industry and the sector of social work. The sample consisted of employees from a multitude of organisations and HR policies. In total 927 questionnaires were collected with an overall response rate of 57%. Response was enhanced through direct, personal communication between the interviewer and the respondent and through the provision of both conditional and unconditional incentives (Church, 1993). As such, the first information letter contained a gift, unconditional of participation. A lottery was also announced and organised between the participants. A random selection of five participants was awarded with a gift voucher. 60% of the respondents had a degree of at most secondary education; 62% were engaged as full-time employees and the average age of the respondents was 43 years old. About half of the sample (48%) was male. About 30% of the respondents were blue-collar workers, 59% white-collar employees and 11% had managerial positions.

### 5.2 Measures

For all measures, respondents could answer on a 7 point Likert scale ranging from 'totally disagree' to 'totally agree' or from 'always' to 'never'. **Work method autonomy** is measured

using three items (e.g. *I can decide myself how I perform the work*). Internal reliability is high ( $\alpha$ : 0.80). **Work scheduling autonomy** is measured using four items referring to the sequencing and the scheduling of the work (e.g. *I can decide myself about the sequence of my work tasks*). Internal reliability is high ( $\alpha$ : 0.74). To control whether the different dimensions of autonomy could be differentiated, a Confirmatory Factor Analysis (CFA) was performed on the seven items referring to work method and work scheduling autonomy. In a first model, we loaded all items on a single latent variable that resulted in a low model fit (chi square: 400, df: 14, SRMR 0.08, RMSEA 0.17 and AGFI 0.78). After including correlated errors for 3 items related to work scheduling autonomy, the model fit was acceptable (chi square: 58, df: 11, SRMR 0.03, RMSEA 0.07 and AGFI 0.96). A CFA model with two correlated latent variables nevertheless fitted the data significantly better (chi square: 33, df: 10, SRMR 0.02, RMSEA 0.05 and AGFI 0.97), which confirms that work method and work scheduling autonomy refer to different dimensions.

**Work time autonomy** is measured using a single question. Respondents were asked how their working time was regulated and could choose between (1) start and beginning hours are fixed and cannot be changed, (2) I can choose my own working hours between certain limits and (3) I am completely free in deciding when I start and stop working. **Locational autonomy** is measured using a single question referring to the degree in which the respondents could work from home. They could answer using a 6 item scale running from always to never.

**Innovative work behaviour** is measured using a 9-item scale adopted from De Jong & Den Hartog (2010) including 4 items related to idea generation (e.g. *'How frequently do you wonder how things can be improved?'*), 3 items related to idea championing (e.g. *'How frequently do you make important organisational members enthusiastic about innovative ideas?'*) and 2 items referring to idea implementation (e.g. *'How frequently do you systematically introduce innovative ideas into work practices?'*). The dimensionality of these items was analysed using Confirmatory Factor Analysis (CFA). A single-factor solution resulted in poor fit (chi square 877, df. 28, RMSEA 0.18). A two-factor solution distinguishing between idea generation and idea implementation resulted in a better fit (chi square 157, df. 26, RMSEA 0.07). As studies sometimes point to the existence of three dimensions - idea generation, idea championing and idea implementation (e.g. Janssen, 2000) - a 3-factor solution was also modelled, which resulted in the best fit (chi square 133, df. 14, RMSEA 0.07). Yet, given the high inter-correlation between the idea championing and the idea implementation factors (0.96), we chose to optimise the two-factor solution by allowing the errors of the items referring to idea championing and idea implementation to correlate. As the last item (*'How frequently do you put effort in the development of new things?'*) loaded on both factors, we deleted the item from the analysis. This resulted in a model with a good fit (chi square 55, df.

20, RMSEA 0.04). The internal reliabilities of the two dimensions were high ( $\alpha$ :0.91 and  $\alpha$ :0.93). The IWB structure in this study was identical to that of Dorenbosh et al. (2005).

**Work engagement** is measured using a 7-item scale developed by Schaufeli, Bakker and Salanova (2006), including 2 items related to vigour (e.g. '*When I get up in the morning, I feel like going to work*'), 3 items related to dedication (e.g. '*I am enthusiastic about my job*'), and 2 items related to absorption (e.g. '*I feel happy when I am working intensely*'). Using CFA, the dimensionality of the work engagement measure was tested. A single-factor solution with free parameter estimates and uncorrelated errors resulted in a poor fit (chi square 230, df. 14, RMSEA 0.13). A second-order CFA with three factors (vigour, dedication and absorption) and one second-order latent variable (work engagement) with uncorrelated errors resulted in better fit (chi square 41, df 11, RMSEA 0.06). Yet, given the high inter-correlation between two of the three latent variables (vigour and absorption: 0.87), we fitted a second-order factor CFA with two first-order latent variables. We constrained the loadings of the two first-order latent variables to be equal, constrained the loadings of the theoretical dimensions to be equal, and correlated the errors of the items related to absorption and two of the items referring to dedication. The resulting model showed an excellent fit (chi square 25, df. 13, RMSEA 0.03). The internal reliabilities of the two dimensions were high ( $\alpha$ :0.81 and  $\alpha$ :0.85).

### 5.3 Common method variance

As the data for this research were all measured at the employee level using a single method, the results of the analysis and the estimates might be biased because of 'common method variance' (CMV), i.e. variance stemming from the use of a single source of information (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). CMV could inflate correlations and could lead to incorrect or inflated results. Although several statistical methods were developed in order to assess or model the impact of CMV (e.g. Harman's single factor test), proactive strategies for avoiding CMV are still preferred (Conway & Lance, 2010). In line with the suggestions of Podsakoff et al. (2003), we tried to reduce the bias of CMV by mixing up questions related to various concepts, using different response categories throughout the questionnaire, and including temporal separations between similar questions. Furthermore, we assessed the presence of a method effect by including a latent 'common method factor' in the structural equations model (Chang, van Witteloostuijn, & Eden, 2010; Podsakoff et al., 2003). The loadings on this method factor were statistically insignificant and the relations between the variables were not affected in any way by the inclusion of this common method factor. We therefore conclude that it is unlikely that a method effect seriously biases the results of our analysis.

## 5.4 Analysis – SEM

We used structural equations modelling (SEM) analysis using the SAS 9.3 software (PROC CALIS). This methodology is particularly adapted to analyse direct and indirect relations between variables (Hatcher, 1994; Schumacker & Lomax, 2012). In the analysis, different models are compared regarding their overall fit and the estimated coefficients. Model fit is assessed using a series of indicators of which some have cut-off points defined by the literature, while others are used for model comparison. As such, the chi-square is inspected in relation to the degrees of freedom of a model. A lower chi-square signals a better model fit, while the degrees of freedom give an indication of the parsimoniousness of the model. The chi-square is sensitive to sample size (Hooper, Coughlan, & Mullen, 2008; Schumacker & Lomax, 2012), therefore, other indices are used to assess model fit. We report the Adjusted Goodness-of-fit index (adjusted for the degrees of freedom) (AGFI, >0.95), the Root Mean Square Error of Approximation (RMSEA, <0.05) and the Standardised Root Mean Square Residual (SRMR, <0.05). These tests are used to assess the overall fit of the various models under study and are used in order to compare the fit of the various models proposed. The comparison of models is also performed using the chi square difference test for nested models.

## 6. Results

### 6.1 Bivariate relations

Before the multivariate analysis, the bivariate relations between the variables were inspected. Table 1 gives the correlation coefficients of the work method autonomy, work scheduling autonomy and locational autonomy with WE and IWB. All correlations are positive and significant except for the correlation between working from home and WE. In terms of size, the strongest correlation coefficients were found in relation to work method autonomy.

**Table 1**      **Correlations**

|                          | <b>WE</b> | <b>IWB</b> |
|--------------------------|-----------|------------|
| Work method autonomy     | 0.296***  | 0.377***   |
| Work scheduling autonomy | 0.196***  | 0.289***   |
| Working from home        | 0.047     | 0.328***   |

p < 0.01: \*\*\*

When it comes to the bivariate relation to work time autonomy, the means and ANOVA results are given in Table 2. There is a significant bivariate relation between different types of working hours and IWB and WE. Employees who have a more flexible type of time regulation are generally more innovative and more engaged.

**Table 2** ANOVA, means

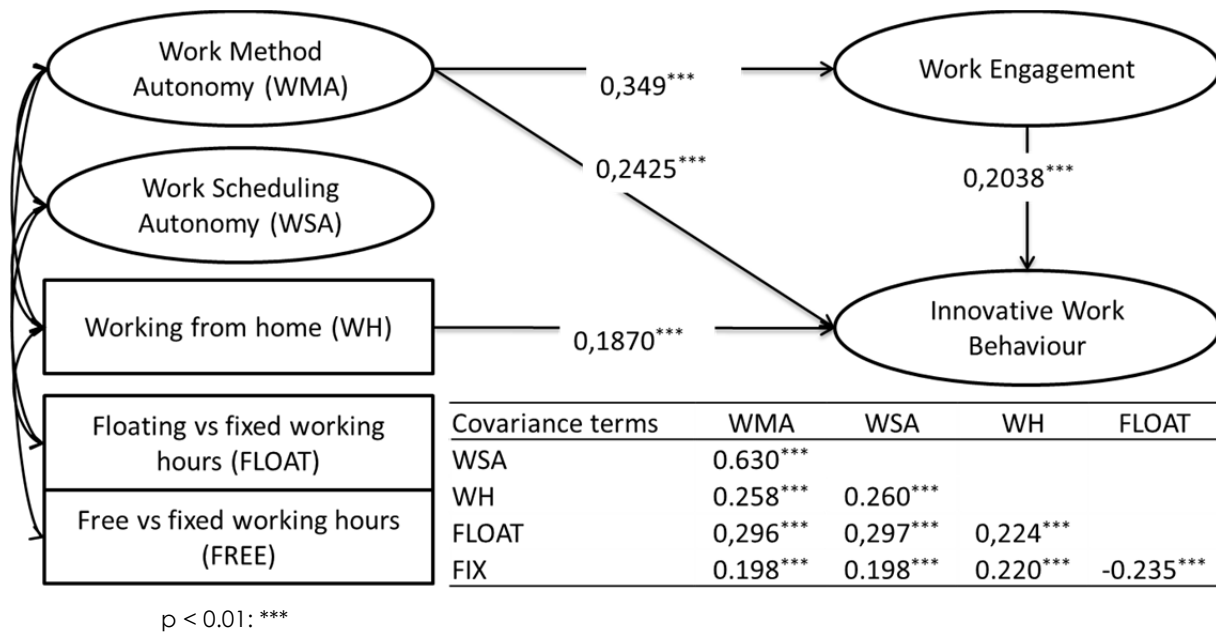
| Work time autonomy   | WE               | IWB              |
|----------------------|------------------|------------------|
| Fixed                | -0.090           | -0.217           |
| Floating             | 0.062            | 0.168            |
| Free                 | 0.252            | 0.477            |
| <b>ANOVA p-value</b> | <b>&lt; 0.01</b> | <b>&lt; 0.01</b> |

## 6.2 Multivariate SEM analysis

The different hypotheses are first tested through the comparison of multiple models and the inspection of their overall fit indices and second through the inspection of the individual relation estimates. In a first phase, a measurement model was fitted that included covariance terms between all latent variables. This analysis showed that one item related to dedication (*'my work inspires me'*) loaded high on both dedication and Innovative Work Behaviour. Given the fact that 'inspiration' can be interpreted ambiguously and in order to avoid confusion between the dedication and IWB scale, this item was dropped from the analysis. The resulted measurement model showed a good fit (chi square 780, df. 324, RMSEA 0.0394, SRMR 0.0337, AGFI 0.9215).

In a second phase, a full reference model was fitted on the data. This model included all hypothesised relations and corresponded to the model shown in Figure 1. This model also included covariance terms for all autonomy variables. We note that in this model, we control for the effects of the industry and the hierarchical level of the employee. The fit indices for the **full model** showed a good fit (chi square 747, df. 332, RMSEA 0.0372, SRMR 0.0355, AGFI 0.9271). The inspection of the estimates for the relations between the autonomy dimensions, work engagement and IWB indicated that a more parsimonious model could be considered. The relation of work method autonomy with work engagement and IWB was positive and significant (WE -  $\beta$ : 0.3854, SE: 0.0509; IWB -  $\beta$ : 0.2217, SE: 0.0520) but this was not so for the other dimensions of autonomy. There were no significant relations between work pace autonomy with either work engagement or IWB (WE -  $\beta$ : -.0325, SE: 0.0529; IWB -  $\beta$ : 0.0164, SE: 0.0534). The same is true for the effects of work time autonomy. Compared to free working times, fixed working hours were not significantly related to work engagement and IWB (WE -  $\beta$ : -.0117, SE: 0.0792; IWB -  $\beta$ : 0.0618, SE: 0.0727), nor were floating working hours related to the two dependent variables (WE -  $\beta$ : -.0525, SE: 0.0739; IWB -  $\beta$ : 0.0262, SE: 0.0673). As for locational autonomy, the full model showed a non-significant relation with work engagement, but a positive and significant relation with IWB (WE -  $\beta$ : -.0188, SE: 0.0367; IWB -  $\beta$ : 0.1806, SE: 0.0351). These non-significant relations suggest that we can eliminate these relations from the model without significantly affecting the model fit. This more parsimonious model indeed showed a good model fit (chi square 751, df. 339, RMSEA 0.0367, SRMR 0.0361, AGFI 0.9282). A chi-

square difference test showed that the two models are equivalent in terms of model fit, so the more parsimonious model is to be preferred.



**Figure 2** Final model

Figure 2 depicts the final model and the found estimates between the latent variables, as well as the covariance terms between the different job autonomy variables. The model is controlled for the effect of sector of industry and occupational group. From our final model, we conclude that Hypothesis 1a and 1b are confirmed. Work method autonomy is positively related to both work engagement ( $\beta$ : 0.3485, SE: 0.0349) and IWB ( $\beta$ : -2425, SE: 0.0384). Our Hypothesis 2a and 2b are refuted. There is no significant effect of work scheduling autonomy on either work engagement or IWB. Hypothesis 3a and 3b on the effect of working time autonomy are also refuted. Again, we could not find a significant effect of those variables on either work engagement, or IWB. Hypothesis 4a on the relation between locational autonomy and work engagement is refuted. There was no significant positive effect. Hypothesis 4b on the other hand is confirmed. The model reports a significant positive relation between working from home (locational autonomy) and IWB ( $\beta$ : 1.870, SE: 0.0345). The estimated covariance terms between the different autonomy dimensions are all statistically significant and considerable. Specifically work method autonomy is highly correlated with work scheduling autonomy.

## 7. Discussion

The insights from the performed analyses are revealing. They have implications both for science and for the management practice. In the academic field, our study picks up with ear-

lier work on the multi-dimensional nature of job autonomy (Breugh, 1985). We nevertheless contribute to the literature by adding two contemporary forms of job autonomy such as working time autonomy and working place autonomy. Although these last two dimensions of autonomy are currently promoted as particularly beneficial for the employees and the organisation (Kattenbach et al., 2010; Origo & Pagani, 2008), our results suggest that their impact is limited. Working time autonomy is not related to either work engagement or IWB, while locational autonomy is only related to IWB. Although these two forms of autonomy had significant positive bivariate relations with the employee outcome variables, it seems that these relations stem from the fact that employees who enjoy working time autonomy are very likely to enjoy high levels of work method autonomy at the same time (Beugelsdijk, 2008; Kauffeld et al., 2004). Indeed, this observation shows the absolute necessity of including work method autonomy in research focusing on the effect of, for example, working time or working place autonomy. At the same time, this study adds to the literature that voices a sort of scepticism on the effectiveness of installing flexible working times in organisations (de Menezes & Kelliher, 2011).

Second, our study showed that the main effect of job autonomy on employee outcomes can be attributed to work method autonomy. For employees to be engaged and innovative, the focus should consequently be on giving them discretion over how they perform their job tasks in terms of methods used. This effectively enables them to become deeply engaged in their work and develop new and innovative ideas for optimising the work process.

Third, the relation of locational autonomy to work engagement and IWB is particularly interesting. As such, we could not find a significant effect of locational autonomy on work engagement, while there is a considerable positive relation to IWB. Controlling for other dimensions of job autonomy, it seems that working from home does not affect work engagement, but it does relate to creative and innovative thinking. One might pre-suppose that the variation in work environment stimulates out of the box thinking of employees and incites them to take innovative initiatives at the workplace (Bentley & Yoong, 2000). This study is, to our knowledge, one of the first to point to this positive effect of locational autonomy for IWB.

This study also provides clear guidelines for the management practice, which struggles with the question on how autonomy should be implemented in order to boost the engagement and innovativeness of their employees. First of all, the management practice should know that all dimensions of job autonomy are highly interrelated with each other. Our data strongly indicated that employees enjoying one type of autonomy were very likely to enjoy other dimensions of job autonomy too. Next, our study shows that if organisations want engaged and innovative employees, they should focus on work method autonomy. They should give



employees the possibility of developing their own work methods and approaches. Currently, popular management trends such as flexible working hours will only affect work engagement and IWB if they indirectly boost the work method autonomy of the employees. Locational autonomy (telework) on the other hand does seem to be more than a management trend as it is effectively related to IWB.

The study nevertheless faces some limitations. The first limitation is the cross-sectional character of the data. Consequently, we cannot establish firm causal relations in the model. Next, a single method is used to measure all the concepts in this analysis. Different authors suggested that this could inflate associations between concepts, yet others state that this problem is not to be overestimated (Spector, 2006). By taking into account the recommendations of Podsakoff et al. (2003), we tried to prevent a common method bias and assessed whether it significantly impacted our results. Next, some concepts are measured using a single item. Single item measurements are generally seen as a limitation. Yet, several studies found indications that single item measures do not underperform in comparison with multiple item measures (Bergkvist & Rossiter, 2007; Gardner, Cummings, Dunham, & Pierce, 1998). Gardner et al. (1998) even indicated that the inclusion of single item scales with a different response format can prevent common method bias.

## **8. Conclusion**

As job autonomy has been identified by multiple studies and theoretical frameworks as an essential job ingredient for employee engagement and beneficial employee behaviour, we here focus in more detail on the question: what kind of job autonomy really matters? Building on previous literature, we distinguish between work method, work scheduling, work time and locational autonomy. We conclude that indeed, these dimensions of autonomy are bivariately related to higher levels of work engagement and IWB. Yet, when analysing the effects of these dimensions of job autonomy simultaneously, most of these effects become insignificant. For work engagement, only the effect of work method autonomy is statistically significant. For IWB, work method and locational autonomy play a positive role. This means that the current managerial attention that is given to, for example, work time autonomy (floating work hours) only contributes to enhanced work engagement and IWB insofar as such a system results in higher work method autonomy.

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## Chapter 9 Conclusion

In this final chapter, we summarise the main findings of the different chapters. Next we situate the conclusions within the general objectives of the doctoral study. We conclude with a discussion of the implications for theory and practice.

### 1. Main findings

The objective of this dissertation was to contribute to the study on how flexible employment relationships affect employee innovation. In chapters 3-5, we focused on the conceptualisation of employee innovation and Innovative Work Behaviour. In chapters 6 to 8, we focused on different aspects of the employment relationship and employee innovation. We summarise here the main findings.

First of all, this dissertation conceptually studies Innovative Work Behaviour (IWB) in detail and concludes that the proposed definitions are flawed for various reasons. We therefore propose the following **definition**: *'Innovative work behaviour is all employee behaviour aimed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures, new and intended to benefit the relevant unit of adoption'*. This definition better reflects the IWB reality and is different from previous definitions as (1) it is not result dependent, (2) it refers to relative and not absolute novelty, (3) it includes partial IWB and (4) refers to employee behaviour and not employee attitudes.

A second finding refers to the **prevalence** of employee innovation. As explained in detail in the introduction, we can distinguish between Innovative Work Behaviour (IWB) on the one hand, and Employee-Driven Innovation (EDI) on the other. Where the first refers to individual behaviour and is independent of the final result of the behaviour, the second refers to the implementation of an actual innovation in which an individual or a group of employees played a major role. Although our sample is not representative for the whole population of employees in the five different industries under study, it gives a good insight into the prevalence of both IWB and EDI in different sectors and from employees from different hierarchical levels. On the basis of this data, we found that a considerable portion of the studied employees were never involved in any innovation process in their organisation. Moreover, genuine Employee-Driven Innovation, where the employee takes the initiative for an innovation, is a

rarity. In general, employees are involved at the initiative of the management and are given the chance to contribute their ideas in the development and/or implementation stage of the innovation process. Significant differences are found regarding the involvement of employees, depending on the hierarchical position of the employee and the industry. At the same time, the study shows that employees from different levels *can* be involved in innovation activities, and they can do so in all industries and independent of their occupational group.

A third finding from this dissertation has to do with the relation of **job insecurity** to Innovative Work Behaviour. On the basis of our statistical analysis, we can conclude that job insecurity forms an obstacle for employee innovation. If employees perceive their job as being insecure, they are less inclined to perform IWB. Job insecure employees also tend to be less engaged in their work. It is less likely that they will feel a work-related *flow* through which they feel energised and absorbed by their work tasks. Moreover, job insecurity goes hand in hand with a job with very low levels of job autonomy, which is an important antecedent of both work engagement and IWB. We conclude that employees in insecure jobs are less able to innovate, less engaged in their work, and less motivated to identify problems and generate creative solutions. Furthermore, if employees are not sure about their future employment, they are less inclined to invest in lengthy innovation processes. In sum, this dissertation found indications to refute the idea that employees can be activated or stimulated to work smarter by making the job insecure.

Fourth, we observed that **pay flexibility** in terms of individual and collective Performance-Related Pay (PRP) has an ambiguous relation to IWB. Chapter 7 shows that individual PRP has no straightforward effect on IWB. But individual PRP does negatively affect the positive relation of job autonomy to IWB: Individual PRP buffers (i.e. weakens) the positive effect of job autonomy on IWB. As such, individual PRP can be seen as a potential obstacle for IWB in particular job design contexts. These findings can be nicely positioned in the literature on the relation between motivation and employee creativity. For creativity, it is of vital importance that employees are intrinsically motivated. If the job is interesting and challenging, employees can be intrinsically motivated, which in turn is positive in its effect on their creative performance. Performance-related pay is introduced as an attempt to motivate employees through focusing not on the job content, but on the extrinsic result of doing the job: the pay, the reward. This kind of motivation is considered to be one that reduces the intrinsic motivation of employees and consequently negatively affects their creative performance. Our research confirms and extends this argument to IWB. We have showed clearly that giving employees performance related pay weakens the positive effect of job autonomy on IWB, job autonomy that is a major source for employee intrinsic motivation. In general, we conclude that individual performance related pay is often not an efficient HR strategy for increasing workers innovation.

Fifth, the effect of **collective PRP** proved to be very different in our analysis. We observed a clear positive relationship with IWB, which is significantly strengthened if employees perceive the internal communication in the company to be efficient. On the subject of collective PRP, the theoretical literature is less developed than on individual PRP, our interpretation consequently needs confirmation. Collective PRP seems to serve as a motivator for employees to share their knowledge, collaborate to improve the working processes, because in the end, they may gain from this collectively. At the same time, the collective PRP does not shift the focus of attention to the extrinsic rewards, as the financial rewards are sufficiently removed from the day-to-day behaviour of the employees. We also observed that these positive effects are more pronounced if employees have the feeling they can influence the performance of the organisation through the communication of their ideas. This is in line with the case-study research on the Scanlon Plan (Massoud, Daily, & Bishop, 2008; Wren, 2009), which suggests that employees can foster their performance and productivity by providing collective financial incentives together with effective knowledge and idea sharing systems.

The sixth finding of this dissertation relates to the effects of **flexitime**. Flexitime is currently the subject of various managerial fads running on terms like '*the new world of work*' (Het Nieuwe Werken) or the employee 2.0. Our study nevertheless revealed that there is no (multivariate) relation between flexitime and IWB. It seems that flexitime is only effective in so far as it is accompanied by higher autonomy over the work methods.

Seven, in all empirical chapters and in the literature review, the importance of the **job design** became evident, both for its direct effects and for its important role in interactions or relations with other factors. This dissertation focused primarily on job autonomy as a fundamental enabler for employee innovation. Employees enjoying relatively high level of discretion in how they do their job are more likely to be engaged in their job. This gives them the necessary motivation to improve the work processes, but job autonomy also gives them the necessary tools for creativity and experimentation. Employees in autonomous jobs have the freedom to try different approaches to the work tasks, think about alternatives, experiment and develop their ideas before presenting and defending them towards colleagues or supervisors. Moreover, we also found substantial indications that it matters a great deal in which field the employees enjoy autonomy. The major and main effect stems from autonomy regarding the job method, the way a job is done. Other dimensions of autonomy, for example regarding the work pace, work place or work time have only limited or no effects on IWB.

These findings from the different chapters are, in our opinion, interesting in their own right, but the bundling together of these individual chapters in this dissertation offers the opportunity to further reflect on these findings. Table 1 gives a concise overview of the main findings. From this table we can link the individual empirically established relations to the larger theoretical

framework of this dissertation. Referring back to the employment relationship discussed in the introduction, this dissertation concludes that none of the three studied aspects of the employment relationship (job insecurity, financial flexibility and flexi-time) have a clear positive relation to IWB. When we focus on job design (job autonomy, time pressure), the relationships are far more straightforward.

**Table 1      Main findings – Flexible employment relationships**

| Focus in this dissertation | Relation with IWB      | Chapters concerned |
|----------------------------|------------------------|--------------------|
| Job insecurity             | Negative               | Chapter 5 & 7      |
| Individual PRP             | Interaction            | Chapter 5 & 6      |
| Collective PRP             | Positive + interaction |                    |
| Flexi-time                 | No relation            | Chapter 8          |
| Autonomy                   | Positive + interaction | Chapter 5, 6, 7, 8 |

## 2. Theoretical implications

The findings from this dissertation have implications for the different literature strands used in this research. In the individual chapters, we treat the specific implications of every chapter. We here go beyond that by looking at the implications to the literature from all chapters taken together.

### 2.1 High-performance work systems

As developed in the introduction and in Chapter 5, this dissertation is largely built on the HPWS literature that focuses on the organisational level. This literature assumes that these HR related elements affect organisational variables through employee outcomes, yet this relationship is largely left unstudied. This dissertation contributes to this literature by empirically studying different HR practices studied in the HPWS literature and their relation to IWB as an employee outcome.

The findings are largely in line with the findings on the organisational level. HPWS practices affect employee outcomes, but there are large differences regarding the type of HR practices. In the HPWS literature, distinction is frequently made between different types of flexibility, which can be linked to our studied relationships. As developed in Chapter 5, we could link job autonomy to functional flexibility, job insecurity to numerical flexibility, performance-related pay to financial flexibility and flexi-time to working time flexibility. Much in line with the findings of the HPWS literature, we found clear positive relations between functional flexibility and IWB, while this is not so for the other types of flexibility.

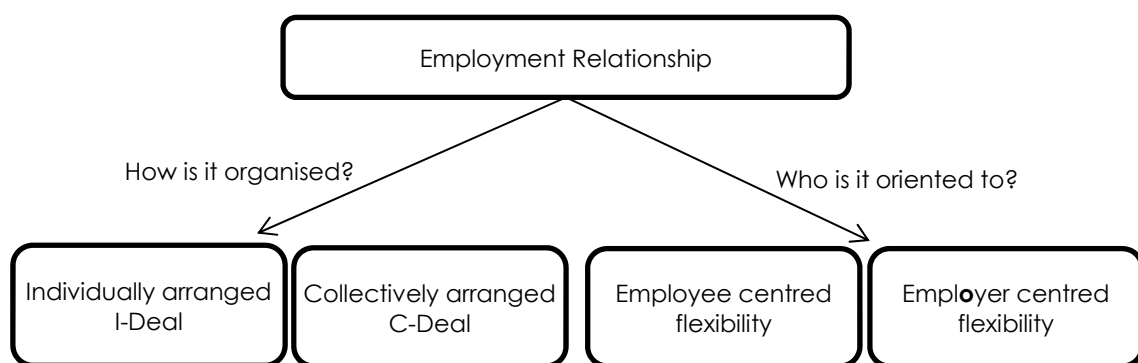
In the HPWS literature, some authors distinguish between **high-involvement work practices** and **high-involvement employment practices** (Boxall & Macky, 2009, p. 11). Where work practices would imply a change in the work setting and content of the employee, employment practices would only focus on optimising the employment relationship. In their article, Boxall and Macky (2009) state that *'research shows that there are many situations where higher employee commitment can be pursued entirely through employment practices rather than work practices (...)'* (Boxall & Macky, 2009, p. 11). This might be true for employee commitment, but the results of this dissertation suggest that this is less the case for employee innovation. Indeed, high-involvement employment practices such as providing job security are expected to be positive for this employee outcome, but the effect is not very strong. Definitely not when compared with high-involvement work practices such as providing employees with a certain degree of job autonomy. Building on both insights, we could hypothesise that the employment practices are crucial in attracting and retaining employees and that the work practices are important in motivation and influencing on the job behaviour. Employment practices might play an important role in the selection of the job and in the decision whether or not to search for another one, but it plays only a small role when it comes to the actual behaviour in the job itself. The day-to-day behaviour largely depends on the job content of the employee. Further research into the differential effect of high-involvement work and employment practices on various employee (and organisational) outcomes could bring more clarity into this discussion.

The overall image that comes from Table 1 shows that the studied aspects of the employment relationship have weak and complex relations to IWB. The lack of clear relations can be related to the way we conceived the employment relationship aspects. Perhaps some important factors were not taken into account. Two such important factors can be identified based on current insights. One refers to the way these employment relationship variables are organised, and a second refers to the orientation of the employment relationship variables (see Figure 1).

Regarding the way flexible employment relationships are organised, we can refer to the literature on so-called I-deals (idiosyncratic deals (Rousseau, Ho, & Greenberg, 2006)). The I-deals model states that employees can be motivated if they can individually shape their work and employment conditions for the mutual benefit of the employee and the employer. In the context of flexible working hours, one can imagine a system in which all employees can negotiate with their supervisor if and to which extent they can choose their starting and stopping hours. In practice, such systems are nevertheless frequently introduced collectively. Companies can decide that all employees can work later on Tuesdays and leave earlier on Fridays. According to the I-deals model, the former rather than the latter practice will affect the employee motivation. Yet, one could also imagine that these individual systems lead to

discontent workers who enjoy less beneficial conditions. As such, these C-deals (collective deals on shaping and flexibilising the work and employment conditions) might also affect the overall motivation of employees. Further research can study flexible employment relationships in more detail and distinguish between aspects that are organised in an individual or collective fashion. Such an approach could potentially result in clearer relations and insights.

Another way of distinguishing different types of flexible employment relationships is by looking at their focus, at their orientation. In general, flexibility is introduced to meet the needs for the employer (Golden, 2012), but some aspects of flexible employment relationships can be perceived as being oriented towards employee demands. In the literature, distinction is therefore made between employee-centred flexibility and employer-centred flexibility (Arrowsmith, 2013; Golden, 2012). The discussion on what is employee-centred and what is employer-centred flexibility is rather easy for some flexibility measures such as job insecurity. But for others, such as flexible working hours or part-time work; there is less agreement. In fact, flexible working hours can both be employee or employer-centred, depending on how they are introduced and on the preferences of the employee. Sometimes authors distinguish between working time *variability* to refer to the employer centred type, and working time *flexibility* to refer to the employee centred type (Costa, Sartori, & Akerstedt, 2006). In the Dutch debate, this real working time flexibility could be linked to the concept of *time sovereignty* (*tijdssouvereiniteit*) (Delarue et al., 2003; Elchardus & Cohen, 2003). Again, further research could disentangle the extent to which certain flexible employment relationships are employer- or employee-centred and bring clarification to the current research findings.



**Figure 1** Alternative categorisations on the employment relationship

## 2.2 Employee creativity literature

In the employee creativity literature, authors tend not to focus on variables regarding the employment relationship, with the notable exception of the flexible pay. This dissertation broadens the scope of the creativity literature by focusing explicitly on job insecurity, different types of flexible pay and other aspects such as flexi-time. In doing so, this dissertation also

contributed to the creativity literature by studying these relations on (for this literature stream) atypical data. In general, the focus of the studies on employee creativity is on a specific population such as knowledge workers or blue-collar workers in large industrial settings. Our study nevertheless indicated that innovation and innovative behaviour also occurs in other, less documented settings such as the hotels and restaurants sector, or in less documented populations such as bank clerks. Moreover, during the research into the antecedents of innovative behaviour of employees, we frequently checked whether these antecedents had different effects depending on the type of employee (occupational group). Only rarely were such effects noticed and generally they disappeared when we included job design variables in the analysis. Indeed, the conclusion is that the triggers for innovative behaviour are generally the same for all types of employees in all settings; the only crucial factor is how the job is structured.

Conceptually, we contributed to the literature by studying in detail the IWB concept and its relations to other, closely related variables. We subsequently proposed some further research directions. As such, we proposed distinguishing between IWB focused at incremental or radical innovations, or between IWB that is intra- or extra-role behaviour. On the basis of our results, one could also question the individual nature of IWB. As already indicated, IWB is composed of different dimensions, of which some are intrinsically linked to the behaviour of other employees (idea championing, idea implementation). Depending on some group level variables, employees might be more or less willing to invest in these. Our results also indicated that collective PRP is positively related to IWB (certainly where ideas can be easily communicated within the company). This again suggests that IWB is an individual behaviour that is intrinsically linked to group level variables and dynamics. In further research, this group level character of IWB could be promising field of investigation that links up with the previously mentioned idea of 'Innovation Mainstreaming'.

Another theoretical contribution refers to a more implicit finding of this dissertation. As discussed in the introduction, a large part of the creativity literature assumes that job and employment characteristics affect employee behaviour through changed levels of employee motivation or engagement. We here modelled both the direct and indirect relations and observed that for most variables there is indeed an indirect effect through work engagement, but a strong direct effect on Innovative Work Behaviour remains evident. This suggests that employee motivation is not all that is needed. Surely, employees need to be motivated in their jobs, but whether they invest in innovative activities also depends on their structural ability to be able to experiment in their job. In the HPWS framework, authors here refer to the idea that HR policies affect employee behaviour through (A) their abilities, (M) their motivation and (O) their opportunities (Boxall, 2012). As we have seen, variables like job autonomy indeed affect the motivation and engagement of the employees, but are also

likely to enhance the opportunities and abilities of employees to innovate. This insight supports the idea that work motivation, work engagement or even job satisfaction are not the only things that count. Work characteristics, HR practices and organisational parameters are likely to affect employee behavioural outcomes, independent of whether the employees feel better or more motivated.

## **2.3 Job Design models & the job quality approach**

This dissertation frequently used insight and terminology from the Job Design literature stream and makes several empirical contributions in the different chapters. In our opinion, at least one of those contributions deserves some extra discussion. In Chapter 7 on the relation between job insecurity, autonomy, work engagement and IWB, we noted that employees in insecure jobs tend to enjoy significantly less autonomy in their job. In other studies, a similar relation was found, but rarely explicitly modelled (De Cuyper & De Witte, 2006; Feather & Rauter, 2004; Mauno, Kinnunen, & Ruokolainen, 2007; Schreurs, van Emmerik, Notelaers, & De Witte, 2010). In this dissertation, we modelled and consequently controlled for this relationship and still found negative effects of job insecurity on both work engagement and IWB. What is left unstudied here is the question of why employees in insecure jobs tend to have low levels of job autonomy. Several explanations can be developed. A first explanation suggests that employees are not given autonomy in their job because of the insecurity of their employment. If an employee is soon likely to be out of a job, supervisors and colleagues can be tempted to give him/her well defined and concrete job tasks. This explanation thus suggests a causal relation from job insecurity to lower levels of autonomy. Arguments for an inverse causal relation are also conceivable. Referring to Atkinson's (1994) model of the flexible firm, one can distinguish between jobs that are central (core) for the company and more peripheral jobs. Basically, employees need to be highly skilled as they are required to work on rather complex jobs. Because of the complexity of their tasks, the employees in the core enjoy high levels of job autonomy and as they are central to the firm, they also enjoy a high level of job security. The jobs on the periphery are simpler jobs. In these jobs, the skills and discretion of the employee plays a minor role. Employees in these jobs therefore enjoy less autonomy. Moreover, as their jobs are rather simple and less central to the firm, they will also enjoy less job security. In this reasoning, the causal relation goes from the low autonomy to job insecurity.

Notwithstanding the direction of causality, job design models need to study and take into account not only aspects of the employment relationship, but also their interrelationships with other job design variables. A research approach that takes a more integral approach to job characteristics is the job quality literature. Here, an important stream looks explicitly at the job by simultaneously studying aspects of the job content, the employment relationship and the social relations (e.g. Green et al., 2013; Holman, 2012; Lorenz & Valeyre, 2005; Muñoz de



Bustillo, Fernandez-Macias, Anton, & Esteve, 2011; Vandenbrande et al., 2012). Such an approach is very insightful in terms of the used concepts and methodologies. Yet, it also faces two limitations. First, it rarely studies empirically whether some 'qualitative' jobs have beneficial outcomes for the employee and/or the organisation. Most studies only look at the relationship with job satisfaction. Second, this approach rarely develops in detail why some job characteristics (or combinations thereof) would positively affect employee outcomes. In this dissertation, we did exactly that, we looked at different aspects relating to the job content and the employment relationship and discussed in detail how they (or their combinations) affected employee outcomes in terms of innovative behaviour and work engagement. This dissertation could be taken a step further by using the more integral *job quality* approach, and by taking this literature a step further by also focusing on the outcomes. In the employee health literature, Vanroelen et al. (2010) developed a configurational approach using latent profile clustering techniques (Magidson & Vermunt, 2002; Vermunt & Magidson, 2002) to link identified job types to employee outcomes. Such an approach would mean a combination of the strengths of the job-design and job quality research and would result in a significant enrichment of both.

## **2.4 Innovation mainstreaming**

This dissertation is built on the assumption that the innovative contribution of all employees matters and is related to the innovativeness of the organisation. An unobtrusive extensive literature provides evidence for this assertion, but most of it is built on case studies (e.g. Aasen, Asmundsen, Gressgard, & Hansen, 2012; Høyrup et al., 2012; Robinson & Schroeder, 2004; Sitter, 1998). To our knowledge, no studies exist that have empirically and quantitatively studied the effect of the innovative behaviour of 'all' employees on the innovative character (and economic performance) of organisations. We here refer to the idea that we provoked in Chapter 4 on 'Innovation Mainstreaming'. We defined this concept as 'innovation regime in which all employees, of all hierarchies are on a regular basis engaged in innovative activities' (De Spiegelaere et al., 2012). This idea is in line with the arguments developed by De Sitter (1998, p. 354) that innovative activities should be developed continuously in the firm in all parts of the organisation and that job quality is the key enabling factor for attaining this (Sitter, 1998, p. 359). As De Sitter (1998) states that innovation should not be a separate function in the firm, this means that more employees will be more actively involved in innovation activities. A prerequisite for this is of course that they have the opportunity to do so, for which the job content is central. Further studies could develop this concept in more detail and look at whether or not companies that mainstream their innovation process are indeed more innovative and performant. Even further studies could search for boundary conditions for such a relation or for organisational antecedents that enable companies to mainstream their

innovation process or not. This promising line of research could in this way connect to the literature on the socio-technical organisation of the firm, which has as one of its major objectives to enable organisations to react swiftly on change and auto-generate innovation in a continuous way (Van Hootegem, 2000; Sitter, 1998, p. 354). Such a research agenda would also answer the calls of various scholars in HR, who suggest that more elaborate research is needed on the relation between organisational characteristics and outcomes mediated by individual and collective employee outcomes (Guest, 2011; Jiang et al., 2013).

### 3. Practical and policy considerations

In addition to the implications for the research literature and theory, the findings of this dissertation also have some implications for the policy makers and HR practitioners.

A first implication relates to the idea that '**job security**' is a thing of the past. For example, in the New Industrial Policy (Vlaamse Overheid, 2013, p. 18) document of the Flemish government, a plea is made for a transition from job security (*job zekerheid*) to employment security (*loopbaanzekerheid*). Research has already demonstrated that such a transition is not without risks and that in a context of crisis and high unemployment, employees face low job security and employment security, with very detrimental consequences for the employees (Berglund, Furåker, & Vulkan, 2014). Our research adds to this that job insecurity is related to less innovative behaviour of employees and that a transition from job to employment security thus involves risks from an innovation management perspective. Rising job insecurity might well undermine the innovative potential of Flemish employees and by consequence the innovative potential of the economy at large. As for the HR practice, one can similarly conclude that an organisational policy focused on insecure employment will be accompanied by a low innovative contribution of employees.

Statements on the need to go beyond the standard employment relationship to stimulate employees are not confirmed in this research, even to the contrary. True, the observed relations between job insecurity and IWB are limited in scope, but they expose an important principle: for employee innovation, a degree of mutuality, reciprocity and commitment is required from both sides. This observation goes against the modern ideas on the 'new deal' (Herriot & Pemberton, 1995; Sparrow, 2000), 'the boundaryless career' (Rodrigues & Guest, 2010), 'the employee 2.0', or the 'partnership' between employees and employers (Collins, 2001). All these models suggest that the modern employee is less attached to job security and is more focused on individual career development, interesting projects and challenging work. Empirical research could not confirm the existence of any clear evolution in the expectancies of either employers or employees (Huiskamp & Schalk, 2002), and the results of the

European Value Study for Belgium even suggest the opposite: job security was and is still of crucial importance for employees. The idea that job security is something of the past and that even employees are asking for more flexible (or according to some 'adult' (Baane, Houtkamp, & Knotter, 2010)) employment relationships seems to be nothing more than wishful thinking.

The second policy implication relates to the effectiveness of **flexible reward policies**. In Chapter 7 we showed that collective rather than individual performance related pay matters for employee innovativeness. In Belgium, both individual and collective forms of PRP are promoted by public policy. The Innovation Bonus (*Innovatiepremie*) offers a tax friendly way of giving a financial bonus to individual employees who proposed, implemented or contributed substantially to an innovation. Collective agreement nr 90 (CAO 90) on the other hand offers a tax friendly way of giving a financial bonus to all employees, depending on certain collective performance criteria. Building on the insights of this dissertation, one could argue that the second system is more likely to contribute to Innovative Work Behaviour than the first. Individual performance related pay has a rather complex effect on the IWB of employees and can negatively affect the positive relation between autonomy and IWB. The relation of collective PRP to the innovative behaviour of employees is neutral in contexts with a very ineffective organisational communication, but is strongly related to the IWB of employees when communication runs more smoothly in the organisation. From an employee innovation policy perspective, it thus seems better to promote the collective system rather than the individual.

One of the more interesting implications for the HR practice relates to the effect (or want of effect) of autonomy in terms of working hours. In the current management literature, concepts such as *Het Nieuwe Werken* or the new world of work are fashionable, which refer to the promise of time and place independent work. In the modern economy, it does not matter where or when the work is done, it matters that it is done properly. Time and place independent work would, as a consequence, positively affect employees and stimulate 'working smarter'. Our research findings made these statements into questions in relation to IWB. In our research, we found relations between time independent work and working smarter (i.e. Innovative Work Behaviour), but this relationship was completely due to the fact that such employees also have higher levels of autonomy regarding the way they perform their work tasks. Although our study also has its limitations, the findings are a plea for cautiousness in the implementation of these schemes and a call for a managerial focus on what has several times been proven to make a difference: the job design.

Finally, the dissertation results can be interpreted as support in favour of policies that focus on things like organisational innovation, social innovation or organisational change that enhances employee autonomy in the firm. As this dissertation primarily points to the

importance of the job content as a motivator for innovative employee behaviour, policy should focus on these aspects, rather than focusing on the promotion of performance related pay policies or by designing policies that might negatively affect the job security of employees. In this context we can refer to work performed by Flanders Synergy on the innovative work organisation. In their approach, the job content is a central issue of concern. On the basis of the Karasek' (1979) model, they seek to bring about organisational change that lead to more autonomy for employees and by consequence the creation of so-called 'active jobs'. The findings of this dissertation suggest that such a focus on the job content can indeed bring about change and enable employees to contribute to the organisation fully by developing, communicating and implementing innovations.

#### **4. Concluding remarks**

Employment relationships matter for employees and they do not matter in the way policy makers tend to believe. We could not find evidence for the idea that standard employment relationships would present an obstacle for employees to innovate. To the contrary, particular flexible employment relationships risk undermining the employee's contribution to innovation. In a context of high international competitiveness, countries have only few levers to compete and one of them is the extensive use of the employee potential. This dissertation nevertheless shows that there is a trade-off between cutting costs by flexibilising employment relationships and expecting a maximal contribution to the organisation from employees. Disinvestment in employees on the part of the organisation is most likely to be accompanied by a disinvestment in the organisation on the part of the employees.

Changing employee work behaviour by merely changing the pay structure or the time schedules ignores the fundamental influence of the job content and structure. If employees are to innovate, innovation in the current management and policy thinking is a prerequisite.

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## ANNEX 1    Innovatief Werkgedrag als concept: definiëring en oriëntering

Stan De Spiegelaere, Guy Van Gyes & Geert Van Hootegem<sup>8</sup>

**Abstract:** Samen met de beleidsaandacht naar innovatie, werd een nieuw gedragsconcept aan gelanceerd: Innovatief Werkgedrag (IWG). Ondanks het frequente gebruik in empirisch onderzoek, is er zelden stilgestaan bij het concept zelf. In deze studie belichten we kritisch de bestaande definities en concluderen dat een passende definitie en conceptualisering ontbreekt. Op basis van de beschikbare literatuur wordt geconcludeerd dat innovatief werkgedrag gaat over werknemersgedrag, gericht op de generatie, introductie en/of toepassing (binnen een rol, groep of organisatie) van ideeën, processen, producten of procedures die nieuw en vermoedelijk gunstig zijn voor de relevante adoptie-eenheid. IWG is daarbij niet exclusief extra-rol gedrag en heeft betrekking op zowel radicale als incrementele innovaties. IWG kent een sterke overlap met andere concepten zoals creativiteit op de werkplaats, *intrapreneurship*, organisationeel burgerschapsgedrag, persoonlijk initiatief, *taking charge*, en werknemersgedreven innovatie. Toch blijft IWG uniek door zijn exclusieve focus op innovatie van vele vormen.

### 1. Inleiding

Wil Europa competitief blijven, dan moet het innovatief zijn. Veruit de meeste aandacht van beleidsmakers gaat daarbij naar het stimuleren van onderzoek en ontwikkeling (European Commission, 2010). Maar veel kleine en grote innovaties zijn het resultaat van werknemers-initiatieven (EUWIN, 2012). Meer zelf, volgens sommige onderzoekers zijn het die kleine werknemersinnovaties die het verschil maken, veel meer dan de grote, *break-through* innovaties die gemakkelijk gekopieerd kunnen worden (Getz & Robinson, 2003; Robinson & Schroeder, 2004).

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<sup>8</sup> Stan De Spiegelaere en Guy Van Gyes zijn respectievelijk als onderzoeker en onderzoeksleider werkzaam aan het HIVA (Onderzoeksinstituut voor Arbeid en Samenleving), verbonden aan de KU Leuven. Correspondentieadres: Stan De Spiegelaere, Parkstraat 47 – Box 5300, B-3000 Leuven, België. e-mail: Stan.despiegelaere@kuleuven.be. Geert Van Hootegem is werkzaam aan de faculteit Sociale Wetenschappen van de KU Leuven.

In deze context wint een nieuw concept aan populariteit: Innovatief Werkgedrag (IWG). Sinds de lancering van het concept door Scott en Bruce (1994, 1998) werd het opgepikt en gebruikt in vele andere studies. In deze studies is er echter weinig sprake van een gedetailleerde conceptualisering van het IWG concept. Vaak wordt er zelfs geen enkele uitvoerige definitie voor het concept voorzien, of verwijzen de studies eenvoudigweg naar het concept 'innovatie'.

Het belang van duidelijke concepten kan nochtans moeilijk onderschat worden (Osigweh, 1989). Zonder duidelijk omschreven concepten is een cumulatieve kennis onmogelijk en kunnen bevindingen niet gecontroleerd of gevalideerd worden. Om die reden staan we hier stil bij het concept IWG, zijn definiëring en zijn relatie met andere concepten uit de literatuur.

## **2. Innovatief werkgedrag: definiëring**

Sinds de lancering van het concept 'Innovatief Werkgedrag' in 1994 en 1998 door Scott en Bruce (1994, 1998) kende de literatuur rond dit concept een gestage groei. Eind 2012 waren er 31 publicaties in gereputeerde internationale en Nederlandstalige tijdschriften die het concept gebruikten in hun analyses. Deze studies worden gekenmerkt door een redelijke diversiteit aan onderzoeksmethoden (kwalitatief en kwantitatief) en invalshoeken (IWG als afhankelijke en onafhankelijke variabele). Tegenover deze relatief rijke empirische literatuur staat echter een relatief magere conceptuele uitwerking van IWG. Vaak wordt er geen enkele definitie gegeven voor het concept (vb. Holman et al., 2011; Janssen, 2005; Krause, 2004; Pot, Kraan, & van den Bossche, 2009). Zelfs de twee *founding fathers* van het concept, Scott en Bruce (1994, 1998) geven geen definitie voor IWG. Artikels waar wel een poging gedaan wordt tot definitie, blijven deze vaak beperkt tot een verwijzing naar West en Farr's (1990) definitie van innovatie (Kleysen & Street, 2001; Reuvers, van Engen, Vinkenburg, & Wilson-Evered, 2008; Yuan & Woodman, 2010). Enkele andere auteurs deden een poging om een definitie te voorzien voor IWG, maar deze werden zelden. Er is met andere woorden geen algemeen aanvaarde definitie. De definities die voorhanden zijn (zie tabel 1), zijn bovendien onvolmaakt om verschillende redenen. We bespreken hier kritisch de verschillende alternatieven, gebruikmakende van conceptuele en empirische inzichten uit de IWG literatuur.

**Tabel 1**      **IWG definities**

| <b>Auteur(s)</b>                                   | <b>IWG definitie</b>  |
|--|---|
| West en Farr<br>(1990, p. 9)                       | The intentional introduction and application, within a role, group or organisation of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organisation or wider society  |
| Spreitzer<br>(1995, p. 1449)                       | Innovative behaviors reflect the creation of something new or different. Innovative behaviors are by definition change-oriented because they involve the creation of a new product, service, idea, procedure, or process  |
| Janssen<br>(2000, p. 288)                          | IWB is defined here as the intentional creation, introduction and application of new ideas within a work role, group or organisation, in order to benefit role performance, the group, or the organisation  |
| Dorenbosh, Van Engen en Verhagen<br>(2005, p. 129) | IWB concerns the willingness by individual employees to constitute on-the-job innovations – for example, the upgrading of ways of working, communication with direct colleagues, the use of computers, or the development of new services or products   |
| Carmeli, Meitar en Weisberg<br>(2006, p. 78)       | Innovative behavior is defined here as a multiple-stage process in which an individual recognises a problem for which she or he generates new (novel or adopted) ideas and solutions, works to promote and build support for them, and produces an applicable prototype or model for the use and benefit of the organisation or parts within it |
| Tuominen en Toivonen<br>(2011, p. 398)             | We understand innovation and change activities as all activities that aim at contributing to the creation and utilisation of beneficial novelties in an organisation.   |

### 3. Innovatie en innovatief werkgedrag

De meest geciteerde definitie voor IWG is een exacte kopie van de definitie van innovatie voorgesteld door West en Farr (1990). Niet minder dan twaalf van de 31 IWG artikels gebruiken deze algemene innovatiedefinitie om IWG te definiëren. De definitie is bijzonder instructief als het gaat om de beschrijving en de afbakening van de term innovatie. Zo benadrukt deze definitie het *relatieve* karakter van de nieuwheid van een innovatie. Een innovatie moet niet absoluut nieuw zijn, maar nieuw voor een gegeven context. Een manager die probeert goede praktijken van andere bedrijven in te voeren in zijn/haar organisatie is dus zeker innovatief bezig, ondanks het feit dat hij zelf niets nieuws ontwikkelt. Daarnaast spreken West en Farr (1990) over de introductie én de toepassing van een nieuwheid. Het louter bedenken van een nieuwheid is niet voldoende om van innovatie te spreken. Het ontwerpen van een veranderingsproces is geen innovatie zolang het veranderingsproces niet omgezet wordt in effectieve daden. Dit sluit aan bij het derde belangrijke aspect aan deze definitie, namelijk de afhankelijkheid van het positieve effect. Volgens West en Farr (1990) zijn innovaties per definitie positieve veranderingen. Een nieuwheid zonder positief effect of met een negatief effect zijn per definitie geen innovaties volgens deze definitie.

Deze definitie geeft een goed inzicht in wat innovatie is en niet is. Maar deze definitie kan niet zomaar gebruikt worden om IWG te definiëren. Ten eerste omdat innovatie resultaats-

afhankelijk is. Een nieuwigheid is pas een innovatie als er sprake is van een positief effect. Als we deze definitie eenvoudigweg overnemen voor de definiëring van IWG, is ook IWG resultaatafhankelijk. Dit betekent concreet dat het gedrag van werknemers enkel ex-post geëvalueerd kan worden als innovatief werkgedrag. De categorisering van het gedrag is dan afhankelijk van de succesvolle invoering van de vernieuwing en van het positieve resultaat. Een werknemer die tijd investeert in het uitwerken en uittesten van een nieuw idee dat uiteindelijk niet effectief blijkt te zijn, zou in de resultaatafhankelijke interpretatie zich niet innovatief gedragen. Zijn gedrag verschilt echter niet fundamenteel als wanneer het nieuwe idee wel effectief zou zijn. Indien deze resultaatafhankelijkheid overgenomen wordt, zou dit een enorme beperking betekenen voor het IWG concept. Om de per definitie positieve connotatie van innovatie te behouden voor een gedragsconcept als IWG moeten we niet kijken naar de effecten van het gedrag, maar de expliciete bedoelingen van het werknemersgedrag. Innovatief werkgedrag moet *gericht zijn* op een positieve uitkomst voor de organisatie.

Een tweede reden waarom de innovatie definitie niet zomaar overgenomen kan worden heeft betrekking op de verschillende fases van het innovatieproces. West en Farr (1990) spreken van de introductie én de toepassing van een nieuwigheid. We weten echter van Kanter (1988) en recenter van Tuominen en Toivonen (2011) dat een innovatieproces gekenmerkt wordt door een hoge mate van onzekerheid en discontinuïteit. Innovatieprocessen zijn iteratief, er worden vaak stappen teruggezet en projecten staan frequent stil. Daarenboven zijn innovatieprocessen vaak samenwerkingen tussen verschillende werknemers waarbij taken verdeeld en overgenomen worden.

Deze complexiteit vormt geen fundamenteel probleem voor de definitie van innovatie, maar wel voor IWG. De meeste IWG onderzoekers (25 van de 32 artikels) onderscheiden daarom verschillende dimensies van innovatief werkgedrag die betrekking hebben op de fases van het innovatieproces. Deze IWG dimensies zijn grotendeels gebouwd op de bevindingen van Kanter (1988) die discrimineert tussen vier verschillende fases van innovatie: idee generatie, steun zoeken voor het idee, idee realisatie en de verspreiding van de innovatie. Na het weglaten van de laatste fase (verspreiding) komen de meeste onderzoekers tot drie subdimensies (12 van de 32 artikels). Andere auteurs verwijzen naar twee dimensies (Krause, 2004; Yuan & Woodman, 2010), vier dimensies (de Jong & Den Hartog, 2010; Dorenbosch et al., 2005; Knol & Van Linge, 2009) of zelfs vijf dimensies (Kleysen & Street, 2001; Tuominen & Toivonen, 2011). Figuur 1 toont een geïntegreerde visuele voorstelling van de verschillende dimensies van IWG vermeld in de literatuur.



**Figuur 1 Dimensies van IWG**

Dit leidt ons naar de derde reden waarom een eenvoudige kopie van West en Farr's (1990) innovatie definitie niet voldoet, IWG heeft namelijk niet noodzakelijk betrekking op alle fases van het innovatieproces. Scott en Bruce (1994, p. 582) stellen reeds dat '*individuals can be expected to be involved in any combination of these behaviors at any time*'. Ze worden hierin gevolgd door Janssen (2000) en door het meer recente kwalitatieve onderzoek van Tuominen en Toivonen (2011). Dit laatste onderzoek toonde bovendien aan dat werknemers vaak andere competenties nodig hebben voor de verschillende dimensies van IWG. Zo zijn er voor het *steun zoeken* en voor de *idee implementatie* veel meer sociale competenties nodig dan voor het creëren en verder ontwikkelen van ideeën. Werknemers zullen dus afhankelijk van hun competenties en hun positie in het bedrijf veel meer bezig zijn met bepaalde dimensies van IWG dan met andere (de Jong & Den Hartog, 2010; Holman et al., 2011; Krause, 2004; Tuominen & Toivonen, 2011). Meer zelfs, sommige werknemers zullen zich exclusief oriënteren op één bepaalde dimensie van IWG en de rest overlaten aan andere werknemers met andere competenties. Hun IWG is dus partieel. Indien we de innovatie definitie strikt toepassen op IWG, dan zou het gedrag van deze werknemers buiten het IWG concept vallen omdat het geen betrekking heeft op zowel de idee generatie als de idee introductie.

We concluderen dat de innovatie definitie van West en Farr (1990) niet zomaar gekopieerd kan worden voor IWG, en dat om drie redenen. Ten eerste omdat deze definitie resultaatsafhankelijk is, ten tweede omdat IWG andere dimensies heeft dan enkel innovatie introductie en applicatie en ten derde omdat de innovatie definitie geen partieel innovatief gedrag toelaat.

#### 4. Alternatieve definities van IWG

Niet alle auteurs en onderzoekers definiëren IWG door eenvoudigweg te verwijzen naar de definitie van innovatie. In tabel 1 gaven we al een overzicht van de andere IWG definities die

voorgesteld worden in de literatuur. Een eerste voorstel komt van Spreitzer (1995, p. 1449). De auteur spreekt over *'the creation of something new or different'*. Spreitzer (1995) verwijst hier echter niet naar het onderscheid tussen iets absoluut nieuws en iets relatief nieuws in een bepaalde context. Daarnaast wordt er ook niet gerefereerd naar het doel van de nieuwheid. Nieuwlichterij dat niet gericht is op het verbeteren van bepaalde processen, producten of diensten valt dus onder de te brede definiëring van Spreitzer (1995). Janssen (2000) is duidelijker op dat aspect en verwijst naar IWG als gedrag dat gericht is op de verbetering van de prestaties. Janssen (2000) maakt hierdoor ook komaf met de resultaatsafhankelijkheid van de innovatie definitie. Daarenboven trekt Janssen (Janssen, 2000, p. 288) de focus breder en spreekt over de *'creation, introduction and application'* van nieuwe ideeën. Daartegenover staat dat de definitie van Janssen (2000) minder duidelijk is over wat verstaan moet worden onder *'new ideas'* en over de inclusie van mogelijk partieel IWG.

Dorenbosch et al. (2005) definiëren IWG dan weer als de *'willingness'* van een werknemer om innovaties te ontwikkelen. Deze term doet sterk denken aan een attitude of een voornemen van een werknemer, meer dan aan effectief werknemersgedrag. Carmeli et al. (2006) beschrijven innovatief werkgedrag door te verwijzen naar de verschillende activiteiten die innovatief werkgedrag kunnen omvatten. Hun definitie spreekt over het genereren en ontwikkelen van ideeën, het zoeken van steun en het effectief implementeren van de innovatie op de werkplaats. De auteurs duiden ook op het relatief nieuwe karakter van innovaties door te stellen dat ideeën zowel nieuw als overgenomen (*novel or adopted*) kunnen zijn. Carmeli et al. (2006) verwijzen ook duidelijk naar de bedoeling van de innovatie om een meerwaarde te betekenen voor de organisatie of delen ervan. Daartegenover staat dat deze definitie sterk suggereert dat de innovatie door één en dezelfde werknemer moet gebeuren en dat die werknemer alle fases van het innovatieproces voor zijn rekening moet nemen.

De laatste definiëring van innovatief werkgedrag is van de hand van Tuominen en Toivonen (2011, p. 398). Die verwijzen naar *'all activities that aim at contributing to the creation and utilisation of beneficial novelties (...)'*. Tuominen en Toivonen (2011) doen in hun definitie dus geen uitspraak over wat die activiteiten allemaal kunnen inhouden. Ook deze auteurs maken komaf met de resultaatsafhankelijkheid van de innovatie definitie door te stellen dat IWG gericht moet zijn op positieve nieuwigheden. Een klein minpunt aan deze definitie is dat er niet duidelijk gesteld wordt dat innovaties nieuw moeten zijn voor een bepaalde context.

## 5. Naar een nieuwe IWG definitie

Een lezing van deze verschillende definities van IWG maakt enkele dingen duidelijk. Ten eerste maken ongeveer alle auteurs komaf met de resultaatstoetsing van de algemene innova-

tie definitie. Zowel Janssen (2000), Carmeli et al. (2006) en Tuominen en Toivonen (2011) verwijzen duidelijk enkel naar de *intentie* van IWG om een positieve bijdrage te leveren. Ook gaan enkele van deze definities veel duidelijker in op de verschillende dimensies van IWG. Carmeli et al. (2006) doen dit in detail terwijl Tuominen en Toivonen (2011) verwijzen naar '*all activities*'. Deze definities geven dus een antwoord op twee van onze drie geformuleerde kritieken op het gebruik van de innovatie definitie voor IWG. Geen enkele van de voorgestelde definities stelt echter dat IWG partieel kan zijn. Daarnaast wordt in enkele van deze alternatieve definities niet expliciet verwezen naar de relatieve nieuwigheid van innovaties.

We concluderen dat deze auteurs het (impliciet althans) eens zijn met onze kritiek op het eenvoudigweg kopiëren van de innovatie definitie voor IWG. We concluderen echter ook dat een goed passende definitie voor IWG op heden ontbreekt. Een dergelijke passende definitie zou dus moeten rekening houden met de volgende aspecten. Ten eerste heeft innovatief werkgedrag te maken met **relatieve nieuwigheden**, geen absolute. Vervolgens kan innovatief werkgedrag **partieel** zijn en dus betrekking hebben op enkele dimensies, maar niet alle. Ten derde moet de definitie van innovatief werkgedrag slaan op **gedrag**, niet op attitudes of output. Ten slotte mag de benoeming van gedrag als 'innovatief werkgedrag' niet afhankelijk zijn van het **effect** van de in te voeren innovatie. Om tegemoet te komen aan deze eisen, passen we de definitie van innovatie van West en Farr (1990) aan om te komen tot een definitie voor IWG die aansluit bij de het reeds geleverde empirische werk rond het concept.

*'Innovative work behavior, is all employee behavior aimed at the generation, introduction and/or application (within a role, group or organisation) of ideas, processes, products or procedures, new and intended to benefit the relevant unit of adoption.'*

*'Innovatief werkgedrag is elk werknemersgedrag gericht op de generatie, introductie en/of toepassing (binnen een rol, groep of organisatie) van ideeën, processen, producten of procedures die nieuw en vermoedelijk gunstig zijn voor de relevante adoptie-eenheid.'*

## 6. Extra vs. Intra-rol en grote vs. kleine innovaties

De discussie over de inhoud van het concept echter niet beslecht. Een ander element in de conceptualisering van innovatief werkgedrag waar geen consensus over bestaat is het extra-rol of intra-rol karakter van innovatief werkgedrag. Is IWG enkel gedrag dat werknemers stellen buiten de expliciete verwachtingen in hun job, of valt verwacht en gevraagd innovatief gedrag ook onder de definitie van IWG?

Janssen (2000) pleit voor de eerste interpretatie. IWG gaat volgens hem '*beyond prescribed role expectations, and are not directly or explicitly recognised by the formal reward system*' (Janssen, 2000, p. 288). Innovatief werkgedrag is volgens hem discretionair gedrag dat niet expliciet verwacht wordt, en waar geen formele beloningen voor toegekend worden. Vele auteurs zijn het met Janssen eens en definiëren innovatief werkgedrag als extra-rol gedrag (Dorenbosch et al., 2005; Ramamoorthy, Flood, Slattery, & Sardesai, 2005; Reuvers et al., 2008; Sanders, Dorenbosch, & Reuver, 2008).

Daartegenover staan Tuominen en Toivonen (2011) die op basis van kwalitatieve data concluderen dat innovatief gedrag zowel intra- als extra-rol gedrag kan zijn. Zij stellen dat innovatief gedrag opgedeeld kan worden in drie categorieën. Bepaald innovatief gedrag wordt verwacht van werknemers, ander wordt ondersteund, terwijl nog ander innovatief gedrag niet verwacht, noch ondersteund wordt door de organisatie. Volgens hen is innovatief gedrag dus zowel intra-rol als extra-rol gedrag. De mate waarin bepaald innovatief gedrag verwacht wordt van werknemers, is afhankelijk van de hiërarchische positie van de werknemer en van zijn taakomschrijvingen. Bij extra-rol innovatief gedrag gaan werknemers dingen (ten goede) veranderen in de organisatie zonder medewerking of zelfs medeweten van het management. Zoals Janssen (2003) al aantoonde, vonden ook Tuominen en Toivonen (2011) dat dergelijk gedrag vaak ten koste gaat van goede relaties met collega's en leidinggevers. Vaak is het verschil tussen intra-rol en extra-rol IWG subtiel, contextafhankelijk en vaag. Het is volgens Tuominen en Toivonen (2011) dan ook essentieel om beide vormen van IWG mee te nemen in de analyse en er niet zomaar vanuit te gaan dat elk innovatief gedrag van een werknemer extra-rol gedrag is. Deze overtuigende kwalitatieve bevinding wordt ondersteund door kwantitatieve resultaten die sterke statistische relaties vaststellen tussen IWG en de rolverwachtingen van werknemers (Unsworth, Wall, & Carter, 2005; Yuan & Woodman, 2010). Op basis van deze resultaten zijn we van mening dat IWG als concept inderdaad zowel intra-rol als extra-rol gedrag betreft.

In tegenstelling tot literatuur over bijvoorbeeld creativiteit, wordt er in de IWG literatuur ook geen onderscheid gemaakt tussen gedrag gericht op radicale en incrementele innovaties. Radicale innovatie verwijst naar innovaties die een breuk zijn met het verleden en dingen radicaal aanpassen. Zo kunnen werknemers voorstellen om de hele productiestructuur aan te passen of drastisch te veranderen van organisatiemodel. Incrementele innovatie echter verwijst naar minder verregaande ideeën die vooral gericht zijn op het verbeteren van bestaande producten en processen. In de creativiteitsliteratuur werd recent een pleidooi gehouden om deze twee vormen van elkaar te onderscheiden omdat het om andere processen zou gaan met andere antecedenten (Gilson & Madjar, 2011; Madjar, Greenberg, & Chen, 2011). In de literatuur over IWG wordt dit onderscheid zelden gemaakt. We gaan er dan ook vanuit dat IWG zowel betrekking heeft op radicale als incrementele innovaties.



## 7. Oude wijn in nieuwe zakken?

Naast een duidelijke definiëring en conceptualisering, moet een begrip in de sociale wetenschappen ook een duidelijke meerwaarde hebben tegenover andere, al bestaande concepten (Osigweh, 1989). IWG moet met andere woorden verschillen van nauw aanleunende concepten zoals creativiteit, intrapreneurship, persoonlijk initiatief en andere (zie tabel 2). In wat volgt bespreken we enkele populaire en minder populaire concepten die nauw aanleunen bij het IWG concept en hun verhouding met IWG.

**Creativiteit** op de werkvloer wordt traditioneel gedefinieerd door te verwijzen naar Amabile (1996) of Woodman, Sawyer en Griffen (1993, p. 293) als de *'creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system'*. Belangrijk hier is de referentie naar iets 'nuttig' en 'nieuw' (*useful and new*). Nieuw wordt hier echter niet relatief gedefinieerd zoals bij IWG (nieuw voor een bepaalde context). Het kopiëren van goede praktijken uit andere departementen of organisaties valt niet onder de definitie van creativiteit, maar wel onder die van innovatie. Een ander punt van divergentie tussen IWG en creativiteit is breedte van het concept. IWG omvat expliciet alle fases van het innovatieproces (idee generatie - steun zoeken - introductie). Creativiteit daarentegen focust zich op de idee generatie en idee ontwikkeling. Het verdedigen van de ontwikkelde ideeën en de eventuele implementatie ervan, vallen buiten het bereik van dit concept. Waar creativiteit op de werkvloer en IWG wel overeenkomen is het nuttige karakter van de nieuwigheid. In beide gevallen wordt er vanuit gegaan dat het nieuwe product, process, procedure of dienst (op termijn) een positieve bijdrage levert aan de organisatie. Creativiteit op de werkvloer heeft ook, net als IWG, geen exclusieve focus intra-rol dan wel op extra-rol gedrag. We kunnen daarom stellen dat creativiteit op de werkvloer een mogelijke, maar niet noodzakelijke eerste stap is in het innovatieproces van werknemers. Mogelijk, omdat het betrekking heeft op idee generatie, maar niet noodzakelijk omdat bij IWG ideeën ook gekopieerd kunnen worden uit andere contexten.

Een tweede concept dat recent aandacht krijgt in de literatuur is het concept '**intrapreneurship**' (of corporate entrepreneurship). De Jong en Wennekes (2008, p. 4) definiëren intrapreneurship als *'employee initiative from below in the organisation to undertake something new; an innovation which is created by subordinates without being asked, expected or perhaps even given permission by higher management to do so'*. Intrapreneurship richt zich duidelijk exclusief op extra-rol gedrag van werknemers gericht op het introduceren van innovaties op de werkvloer. Daarnaast richt de meeste literatuur over intrapreneurship zich op 'ondernemersachtig' gedrag van werknemers. Werknemers die, zonder medeweten of goedkeuring van het management grote innovaties opzetten die lijken op ondernemersgedrag. Bosma et al. (2010) lijsten enkele voorbeelden op van intrapreneurship en verwijzen

naar het creëren van joint-ventures, het ontdekken en ontwikkelen van nieuwe markten en het ontwikkelen van nieuwe producten of diensten. Ook uit de artikels van Antoncic en Hisrich (2001, 2003) blijkt dat het concept intrapreneurship vooral focust op innovaties met een hoge impact en laat het kleine innovaties die zich beperken tot de werkrol van een werknemer buiten beschouwing. Waar intrapreneurship en IWG wel overeenkomen is de focus op alle soorten van innovaties (producten, processen, diensten, ...).

**Organisational Citizenship Behavior** (OCB, of *organisationeel* burgerschapsgedrag) verwijst naar 'a set of presumably beneficial employee behaviors that were 1) discretionary in nature, and 2) not explicitly rewarded by the formal reward system' (Organ, 1988, p. 4). OCB is een zeer breed concept dat verwijst naar een heel gamma van werknemersgedrag zolang het positief en vrijwillig is, en niet expliciet beloond wordt door de organisatie. Er wordt dan ook vaak onderscheid gemaakt tussen verschillende soorten OCB's. Organ et al. (2006) onderscheiden zo zeven dimensies: helpen, sportmanschap, loyaliteit, volgzzaamheid, individueel initiatief, zelfontwikkeling en burgerlijke deugdzaamheid (civic virtue). Andere auteurs maken onderscheid tussen bredere categorieën van *organisationeel* burgerschapsgedrag. Zo differentieert men tussen OCB's gericht op de organisatie tegenover OCB's gericht op het individu of, behoudsgezinde tegenover veranderingsgezinde OCB's (vb. Marinova, Moon, & Van Dyne, 2010).

OCB als breed concept verschilt van IWG op enkele terreinen. Ten eerste omvat OCB veel meer dan enkel werknemersgedrag gericht op veranderingen of innovaties. Vele van de dimensies van OCB zijn gericht op het behoud van het status-quo in bedrijven (vb. volgzzaamheid). Daarenboven richt OCB zich exclusief op extra-rol gedrag van werknemers. Ook ligt de focus van OCB vooral op kleine acties van werknemers die de algemene werking van de organisatie vlotter laten verlopen. Over aanpassingen aan producten wordt niet gesproken, noch wordt er expliciet verwezen naar grotere, radicale veranderingen. OCB is dus niet enkel breder dan het IWG concept, maar ook fundamenteel anders. We gaan daarom ook niet akkoord met de visie van Eisenberger et al. (1990) die innovatief gedrag van werknemers categoriseerde als een subdimensie van OCB. Sommige van de subdimensies van OCB leunen echter heel nauw aan bij IWG. Zo definiëren LePine en Van Dyne (2001, p. 326) '*voice behavior*' ('*constructive change-oriented communication intended to improve the situation*') als een specifieke, veranderingsgerichte vorm van OCB (Unsworth, 2001). Maar ook hier is er een onderscheid met IWG aangezien *voice behavior* zich exclusief richt op de 'steun zoeken' dimensie van IWG.

**Persoonlijk Initiatief (PI)** is 'work behavior characterised by its self-starting nature, its proactive approach and by being persistent in overcoming difficulties that arise in the pursuit of a goal' (Frese & Fay, 2001, p. 134). Volgens Frese et al. (1997) bestaat 'persoonlijk initiatief' uit vier

kernelementen: het is zelfstartend gedrag, proactief, vastberaden bij problemen en gericht op uitkomsten die positief zijn voor het bedrijf. Het zelfstartende karakter van persoonlijk initiatief impliceert dat de doelen van het gedrag niet expliciet aangegeven worden door een externe actor. De werknemer ontwikkelt en definieert zelf de doelen van zijn gedrag voor of tijdens het proces. Aangezien sommige werknemers zoals kaderleden zeer brede job omschrijvingen hebben ('verbeter de werking van het bedrijf'), wordt er verwezen naar het concept van 'psychologische afstand'. Indien het kaderlid oplossing zoekt die niet in de lijn liggen van het normale, die niet al bediscussieerd en uitgeprobeerd worden in kringen van andere kaderleden, dan spreekt men van persoonlijk initiatief. Indien, echter, het kaderlid het initiatief neemt om al bestaande, algemeen bekende opties te nemen worden zijn acties niet gecategoriseerd onder persoonlijk initiatief. In dit tweede geval is de psychologische afstand namelijk beperkt (Frese et al., 1997). Persoonlijk initiatief gaat met andere woorden over extra-rol gedrag. Gedrag dat verder gaat dan de jobomschrijving van de werknemer (Crant, 2000; Frese & Fay, 2001; Rank, Pace, & Frese, 2004). Daarnaast verwijst persoonlijk initiatief naar proactief gedrag. Dit betekent dat persoonlijk initiatief vooral gericht is op het voorkomen van problemen door erop te anticiperen. Vastberadenheid, ten derde, verwijst naar het niet snel opgeven van een idee als men obstakels tegenkomt op de weg. Een werknemer die na een eerste lauwe of negatieve reactie van zijn supervisor opgeeft wordt niet gezien als iemand met veel persoonlijk initiatief. Ten laatste verwijzen Frese et al. (1997) naar de positieve uitkomst voor de organisatie. Hoewel persoonlijk initiatief vaak een aspect van rebellie in zich heeft tegenover de direct leidinggevende, moet het doel (op lange termijn) van het gedrag positief zijn voor de organisatie.

Persoonlijk initiatief en IWG hebben sterke gelijkenissen. Beide concepten hebben betrekking op werknemersgedrag dat zicht richt op (verondersteld) positieve uitkomsten voor het bedrijf. Maar tegelijk zijn er belangrijke verschillen. Ons inziens is persoonlijk initiatief zowel specifieker als breder dan IWG. Persoonlijk initiatief is specifieker op twee vlakken. Ten eerste gaat persoonlijk initiatief enkel uit van 'zelfstartend' gedrag. Innovatieve initiatieven die er komen na een vraag of uitnodiging van bovenaf worden niet opgenomen in deze definitie, terwijl dit wel opgenomen wordt in het IWG concept. Daarnaast richt persoonlijk initiatief zich nogal op de grotere of radicalere innovaties. Het belang van de psychologische afstand leidt ertoe dat kleine innovaties die neerkomen op het kopiëren van (nabije) goede praktijken, niet meegenomen worden in het concept persoonlijk initiatief. Daartegenover staat dat persoonlijk initiatief op bepaalde vlakken ook breder is dan IWG. Zo is persoonlijk initiatief niet enkel gericht op nieuwe of innovatieve initiatieven. Persoonlijk initiatief kan er, volgens de definitie, ook in bestaan dat iemand een bepaalde bestaande praktijk uit eigen initiatief en volledig buiten de normale gang van zaken beter gaat opvolgen en monitoren. Dergelijk gedrag zou wel als persoonlijk initiatief gezien worden, maar bezwaarlijk als innovatief werkgedrag. Daar-

naast stelt Crant (2000) dat persoonlijk initiatief, net zoals proactieve persoonlijkheid, sterk gericht is op persoonlijkheidskenmerken als verklaring van het al dan niet nemen van initiatief. Persoonlijk initiatief wordt dus minder als een veranderbaar gedragskenmerk gezien dan bijvoorbeeld IWG.

**Taking Charge** (voor je eigen rekening nemen) werd gelanceerd door Morrison en Phelps (1999, p. 403). *Taking charge* 'entails voluntary and constructive efforts, by individual employees, to effect organisationally functional change with respect to how work is executed'. *Taking charge* gaat dus expliciet over functionele veranderingen in het werk, en de vrijwillige bijdrage daarbij van de werknemer. Net zoals IWG gaat het dus over positieve veranderingen (Crant, 2000). Chiaburu en Baker (2006) zien *taking charge* als subtype van organisatoneel burgerschapsgedrag dat zich specifiek richt op functionele verandering in een organisatie. De auteurs definiëren bijgevolg *taking charge* expliciet als een vorm van extra-rol gedrag. Parallel stellen Frese et al. (1997) dat het vrijwillige karakter van *taking charge* het equivalent is van het zelfstartende karakter van persoonlijk initiatief. In de definitie van *taking charge* zit daarnaast een expliciete referentie naar een verandering van de manier waarop het werk aangepakt wordt. Het lijkt erop dat initiatieven van werknemers om andere of aangepaste producten te produceren niet meegenomen worden in deze definitie. We concluderen dat *taking charge* verwijst naar vrijwillig (extra-rol) gedrag dat zich specifiek richt op functionele veranderingen over hoe het werk uitgevoerd wordt. Het concept is dus niet inwisselbaar met IWG. IWG is breder aangezien het niet enkel focust op extra-rol gedrag en aangezien IWG betrekking heeft op initiatieven van werknemers die gaan over veel meer dan enkel de organisatie van het werk. .

Als laatste verwijzen we naar het concept **Employee-Driven Innovation** (EDI – Werknemersgedreven innovatie). EDI staat voor 'the generation and implementation of new ideas, products, and processes originated by a single employee or by joint efforts of two or more employees' (Høyrup, 2012, p. 7; Kesting & Ulhøi, 2010, p. 2). Høyrup (2012) en De Spiegelaere et al. (2012) maken onderscheid tussen verschillende soorten werknemersgedreven innovatie afhankelijk van de rol de werknemers en het management. Werknemersgedreven innovatie van de eerste orde staat voor een bottom-up proces waarbij de werknemer zowel het initiatief neemt voor de innovatie, als de innovatie ontwikkelt en invoert. Werknemersgedreven innovatie van de tweede orde is een meer gemengd proces waarbij het werknemersinitiatief overgenomen wordt door het management die de implementatie veralgemeend. Bij werknemersgedreven innovatie van de derde orde ligt het initiatief bij het management, maar worden de werknemers betrokken bij de uitwerking en/of invoering van de innovatie. Werknemersgedreven innovatie leunt nauw aan bij IWG aangezien het duidelijk gericht is op alle soorten innovaties en dat het ongeveer dezelfde dimensies meeneemt in de analyse (initiatief, uitwerking, invoering). Het grootste verschil ligt hem echter in de focus van de twee con-

cepten. Werknemersgedreven innovatie richt zich op innovaties als observatie-eenheid, en zoomt daarbij in op de inbreng van één of meerdere werknemers. IWG daarentegen richt zich op de werknemer en kijkt in welke mate zijn of haar gedrag bijdragen aan innovaties in het algemeen.

Tabel 2 IWG en aanleunende concepten

|                                     | Innovatief<br>Werkgedrag | Creativiteit | Intra-<br>preneurship | OCB | Persoonlijk<br>Initiatief | Taking<br>Charge | Employee-<br>Driven<br>Innovation |
|-------------------------------------|--------------------------|--------------|-----------------------|-----|---------------------------|------------------|-----------------------------------|
| <b>Focus</b>                        |                          |              |                       |     |                           |                  |                                   |
| Gedrag                              | x                        | x            | x                     | x   | x                         | x                |                                   |
| Persoonlijkheid                     |                          | x            |                       |     | x                         |                  |                                   |
| Innovaties                          |                          |              | x                     |     |                           |                  | x                                 |
| <b>In vs. Extra rol gedrag</b>      |                          |              |                       |     |                           |                  |                                   |
| Intra-rol gedrag                    | x                        | x            |                       |     |                           |                  | (x)                               |
| Extra-rol gedrag                    | x                        | x            | x                     | x   | x                         | x                | x                                 |
| <b>Dimensies</b>                    |                          |              |                       |     |                           |                  |                                   |
| Idee generatie                      | x                        | x            | x                     | x   | x                         | x                | x                                 |
| Coalitiebouwen                      | x                        |              | x                     | x   | x                         | x                | x                                 |
| Idee implementatie                  | x                        |              | x                     | x   | x                         | x                | x                                 |
| <b>Type Ideeën</b>                  |                          |              |                       |     |                           |                  |                                   |
| Kleine, incrementele                | x                        | x            |                       | x   | x                         | x                | x                                 |
| Grote, radicale                     | x                        | x            | x                     | (x) | x                         | x                | x                                 |
| <b>Focus ideeën</b>                 |                          |              |                       |     |                           |                  |                                   |
| Processen                           | x                        | x            | x                     | x   | x                         | x                | x                                 |
| Producten                           | x                        | x            | x                     |     |                           |                  | x                                 |
| Procedures                          | x                        | x            | x                     | x   | x                         | x                | x                                 |
| <b>Andere</b>                       |                          |              |                       |     |                           |                  |                                   |
| Functioneel, niet innovatief gedrag |                          |              |                       | x   | x                         |                  |                                   |

Tabel 2 geeft een schematische weergave van de verschillende concepten en enkele van hun karakteristieken. Uit deze tabel blijkt dat er tussen alle concepten een grote mate van overlap bestaat. IWG deelt heel veel van zijn karakteristieken met de andere bestudeerde concepten. Toch blijkt IWB uniek te zijn op verschillende vlakken. IWG is met andere woorden geen oude wijn in nieuwe zakken, maar verschilt als concept van de andere reeds bestaande concepten. De uniciteit van IWG bestaat er vooral in dat IWG het enige concept is dat zich specifiek richt op werknemersgedrag dat te maken heeft met innovatie in de brede zin van het woord (alle types, alle fases).

## 8. Discussie

Uit de bespreking van de literatuur bleek een gebrek aan een passende definitie en een uitgewerkte conceptualisering van het IWG concept. Op basis van inzichten uit empirisch onderzoek over IWG en andere concepten, kwamen we tot de conclusie dat IWG niet zomaar oude wijn in nieuwe zakken is. Het concept kent een sterke overlap met andere gebruikte concepten in de literatuur, maar is tevens gekenmerkt door een unieke focus: werknemersgedrag met betrekking tot innovatie, van alle types en met betrekking tot alle fases. IWG gaat over intra- en extra-rol gedrag gericht op grote en kleine veranderingen, het gaat over zowel ideeën genereren, steun zoeken voor deze ideeën en ze implementeren op de werkvloer. IWG is met andere woorden een breed concept met vele subtypes en subdimensies.

De breedheid van het innovatief werkgedrag concept staat in rechtstreekse relatie met de breedheid van het algemene innovatieconcept. Net zoals onderzoek naar innovatie vaak een onderscheid maakt tussen verschillende soorten innovatie (proces vs. product, radicaal vs. incrementeel), zal het IWG onderzoek ook onderscheid moeten maken tussen verschillende dimensies van IWG. De literatuur kijkt daarvoor vooral naar het werk van Kanter (1988) en gaat op zoek naar verschillende IWG dimensies in functie van de fases van het innovatieproces. Het is echter opvallend dat de onderzoekers er zelden in slagen om deze theoretische dimensies ook empirisch te onderscheiden van elkaar (slechts 7 van de 31 studies slagen daarin). Vaak is het niet de focus van de studies om deze verschillende dimensies te onderscheiden, maar vaak ook wordt er geen statistische evidentie gevonden voor de theoretische dimensies.

Dit kan eventueel verklaard worden door de - niet onderzochte - aanwezigheid van alternatieve dimensies. Zoals we verschillende malen aangaven is er een groot verschil tussen innovatief gedrag gericht op grote, radicale innovaties en kleine, incrementele innovaties (Gilson & Madjar, 2011; Madjar et al., 2011). Ook wordt het innovatief gedrag van werk-

nemers sterk beïnvloed door de mate waarin dergelijk gedrag verwacht wordt vanuit de organisatie (Unsworth et al., 2005; Yuan & Woodman, 2010). Deze verschillen lopen door de onderzochte dimensies over de fases van innovatie. Zo zullen bepaalde aspecten van idee introductie (het meewerken aan innovaties op de werkvloer) vaak gezien worden als intra-rol gedrag, terwijl andere (het zelf systematisch invoeren van een innovatie) bijna altijd als extra-rol gedrag zullen gepercipieerd worden. Hetzelfde geldt voor het verschil tussen radicale en incrementele innovatie. Onder idee generatie valt zowel werknemersgedrag gericht op het innovatief oplossen van problemen, als het meer proactief zoeken naar nieuwe en betere werkmethodes. Deze alternatieve dimensies doorkruisen de dimensies over de verschillende fases waardoor ze statistisch moeilijk te onderscheiden zijn.

Bij gebrek aan uitgewerkte conceptualisering van het concept, focussen de empirische studies zich exclusief op één enkele dimensionalisering van IWG en slagen ze er zelden in om de theoretische dimensies empirisch te onderscheiden. Verder onderzoek moet deze complexiteit van het IWG concept in rekening nemen door onderscheid te maken tussen verschillende soorten IWG. Afhankelijk van de onderzoeksvraag kan de focus vervolgens liggen op (1) het verschil in de fases van het innovatieproces, (2) de focus op grote of kleine innovaties of (3) het intra-rol of extra-rol karakter van IWG.

## 9. Conclusie

Innovatie wordt door vele beleidsmakers en ondernemers gezien als de centrale uitdaging om competitief te blijven. Innovatie is echter meer dan onderzoek en ontwikkelingen en wordt vaak door werknemers voorgesteld en uitgewerkt. Onder meer hierdoor stijgt de aandacht van onderzoekers naar de innovatieve bijdrage van werknemers en kreeg een nieuw concept ruime aandacht: 'Innovatief Werkgedrag'. Ondanks de vele empirische studies die bestaan rond dit concept, ontbreekt de literatuur aan een uitgewerkte definiëring en conceptualisering van IWG. In dit artikel gebruiken we de bestaande literatuur rond IWG om te komen tot een meer passende definitie. Daarnaast wordt het concept vergeleken met een reeks andere, nauw aanleunende concepten om de meerwaarde en uniciteit van IWG af te toetsen

Op basis van de beschikbare literatuur wordt geconcludeerd dat innovatief werkgedrag gaat over werknemersgedrag, gericht op het tot stand brengen van *innovaties*. Deze innovaties kunnen producten, processen, procedures of ideeën zijn die nieuw en vermoedelijk gunstig zijn voor adoptie-eenheid. Innovatief werkgedrag is dus gericht op zowel grote, radicale als kleine, incrementele innovaties en betreft niet enkel intra-rol gedrag, maar ook extra-rol gedrag van werknemers.



Innovatief werkgedrag is, net zoals het moederconcept innovatie, een breed concept en kent een sterke overlap met andere concepten zoals creativiteit op de werkplaats, *intrapreneurship*, organisationeel burgerschapsgedrag, persoonlijk initiatief, *taking charge* en werknemersgedreven innovatie. Net zoals de literatuur over innovatie sterk onderscheid maakt tussen verschillende soorten innovatie, zal de literatuur naar IWG zich vooral moeten focussen op verschillende dimensies van IWG. Gegeven de conceptuele en empirische onduidelijkheid over het aantal en het type te onderscheiden dimensies van IWG, moet verder onderzoek misschien op zoek gaan naar alternatieve dimensies. Hierbij kan gekeken worden naar het onderscheid tussen incrementeel vs. radicaal IWG, of intra-rol vs. extra-rol IWG.

### **Praktijkbox**

Wat betekenen de resultaten voor de praktijk?

- Innovatief werkgedrag is niet zomaar gelijk aan innovatie. Innovatief werkgedrag kan onvolledig of onsuccesvol zijn. Indien men innovatief gedrag bij werknemers wil ondersteunen, moet men hiervoor oog hebben.
- Aangezien innovatief werkgedrag een breed concept is, kunnen organisaties specificeren welke innovatief gedrag ze wensen te stimuleren. Hier kan onderscheid gemaakt worden tussen gedrag gericht op bepaalde fases van het innovatieproces (ideeën geven, ideeën uitwerken, ideeën voorstellen en/of ideeën invoeren), de impact van de innovaties (gedrag gericht op kleine dan wel grote innovaties) of het verwachte karakter van het gedrag (innovatief gedrag als extra-rol, dan wel intra-rol gedrag).
- Innovatief gedrag wordt vooral gesteld als het expliciet vanuit de organisatie verwacht wordt. Organisaties die het innovatief gedrag van werknemers willen stimuleren moeten weten dat bepaalde types innovatief gedrag (grote innovaties, het invoeren ervan) vaak minder expliciet verwacht worden dan andere (ideeën geven). Organisaties kunnen hierop inspelen door alle types innovatief gedrag expliciet te verwachten van al hun werknemers.

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## **ANNEX 2    VIGOR Survey**

The main data source used in this dissertation is the VIGOR survey. This survey was administered by the HIVA team of the IWT sponsored VIGOR project. It concerned an employee level face-to-face survey gauging for information regarding the job, employment relationships, employee attitudes and behaviour and organisational aspects. In Chapter 2 we discussed the survey population, the used sample and its advantages and disadvantages. In this annex, we discuss in more detail the structure of the survey, the non-response analysis, the issue of common method variance and some other survey related aspects.

### **1. Pilot study**

Before the survey questionnaire was developed, a pilot study was realised. This pilot study had two main objectives: first, to address the validity and quality of the IWB measurement items in a diverse sample of workers, and second, to obtain field knowledge of how IWB manifests itself in different contexts. For the realisation of these objectives, focus groups were organised with a total of 40 technical employees of the KU Leuven and 5 supervisors. The focus groups were structured as follows. First, the employees were given a questionnaire that they were required to complete without asking questions. Afterwards, a group discussion was held on (1) the clarity of the questions used, (2) the definition and content of Innovative Work Behaviour and (3) how they as employees contributed their innovative ideas to the organisation. After the discussion, the employees were asked to complete the IWB items again. The researchers also met with the supervisor for an interview and performed a supervisor-rating on the innovative behaviour of his employees.

This pilot study resulted in a rich amount of qualitative and quantitative data. The quantitative data was analysed by performing factor analyses, comparing the pre- and post-intervention IWB scores, comparing the employee and supervisor ratings, and by inspecting the relations with other included variables such as autonomy and civic virtue. Without going into detail, the performed analyses led to the development of several hypotheses on the existence of alternative dimensions in the IWB scale. These hypotheses were further developed in Chapter 3.

The comparison of the pre- and post-intervention self-rated IWB scores did not show any great divergence. The group discussion on the concept and practice of IWB did not alter the self-evaluations of the employees in a significant way. This observation can be used as a validity argument for the self-rated IWB items.

The comparison of the self- and supervisor-ratings of IWB revealed a surprising pattern. The supervisor rating was uncorrelated to the self-rating and to any of the included variables such as autonomy, civic virtue or job satisfaction. The only question that had a significant (positive) relation to the supervisor rating of IWB was the satisfaction of the employee with his supervisor. This observation could indicate that the supervisor rating of IWB might be more influenced by the interpersonal relationship than by the actual behaviour of the employee. This observation confirms arguments developed by Janssen (2000) in favour of the use of self-rating for IWB.

The qualitative data gathered in the focus groups also contributed to a more in-depth insight into the reality of innovative behaviour in real life work situations. This observation strengthened the assumption of the researcher that IWB is not necessarily linked to hierarchical positions, educational groups or personality traits. All employees had examples of situations in which they could (or wanted to) contribute innovatively to the work. Moreover, the comments and discussion on the items confirmed that the IWB item questions were relatively well understood by employees of different hierarchical levels and with different educational and socio-economic backgrounds.

The findings of the pilot study were processed in a research article that was presented at the ISPIM conference in Barcelona. This conference contribution was reworked in a following phase in an article submitted to the Dutch *Gedrag & Organisatie* journal (see Chapter 3).

## **2. Survey procedures**

The face-to-face survey was conducted by trained interviewers. Before the organisation of the survey, the interviewers were invited to an in-house training session on the practicalities and content of the survey. For interviewers with limited experience, HIVA employees or researchers organised a field inspection with a feedback moment. Subsequently, the interviewers could address questions to the HIVA survey service or to the researchers concerned.

The survey procedures were organised as follows. First, the respondents were contacted by postal mailing. The introductory letter contained an official notification of their union president, an invitation to join the survey and a small gift (a plastic ruler). In the invitation, the respondents were informed that they would be contacted by an interviewer in the following weeks. If they did not wish to participate or to be contacted, an email address was provided.



In two weeks after the first mail contact, the interviewers contacted the respondents to make a personal appointment to complete the survey. The interviewers were instructed to try at least three telephone calls at different times and one personal visit to the home address. If no telephone number was available, the interviewers were instructed to perform at least two personal home visits.

### 3. Survey issues

In survey research, the data collection method can have a considerable influence on the data gathered. For the VIGOR survey, we used various strategies to prevent and check for different types of biases.

**Interviewer quality.** In face-to-face questionnaires, the interviewer plays an important role in terms of data quality. His/her behaviour, the way he asks the questions or suggests answers can result in different answers from the respondents. In order to prevent such distortions, the interviewers were given a very standardised survey that they had to follow in detail. In the preparatory training, the interviewers were given the instruction to read the questions exactly as they were given in the survey. For the answer possibilities, the respondents were given show-cards in which all possible answer formats were given. HIVA employees and researchers also performed field inspections with interviewers with limited experience. After these inspections, feedback was given and the cooperation with some interviewers was ended.

**Validated instruments.** The questionnaire used validated instruments as much as possible. A pilot study into the measurement of IWB was used to assess their quality in combination with previous experience using similar variables. Where possible, internationally recognised item lists were used for the measurement of latent concepts. More details can be found in the respective research chapters.

**Reliability.** A test-retest methodology was used to assess the reliability of the survey and whether respondents were consistent in their responses. Two variables were included that measured the time-pressure experienced by the respondents in their job. There was a slight difference in the wording of the item and they were located in a different section of the survey. The correlation between these items was relatively high ( $r=0.77$ ) indicating a sufficient degree of intra-individual reliability.

**Vague quantifiers.** Most questions in the survey gauge the respondent's perspective on issues relating to his job. Generally, the respondent can indicate whether he agrees or disagrees with a certain statement using a 7-point Likert scale. These response categories are clearly not exact measurements. They are what is called *vague quantifiers* (VQ). Behind the use of

vague quantifiers lies a fundamental assumption that all respondents have a certain universal norm or criterion to which their own situation or behaviour is compared (Cole & Korkmaz, 2011; Wright, Gaskell, & O'Muircheartaigh, 1994). The advantage of this methodology is that respondents from very different settings and contexts can be compared.

**Self-ratings for Innovative Work Behaviour.** In the Innovative Work Behaviour literature, researchers frequently use supervisor ratings for assessing the innovative activity of employees (see Chapter 3). We here opted not to do so for both practical and other reasons. Innovative work behaviour is frequently subtle employee behaviour that is not necessarily observed, communicated or even appreciated by the supervisor. Moreover, the innovative behaviour observed by the supervisor could well be employee behaviour that is explicitly manifested with the aim of impressing the supervisor (Janssen, 2000). Next, on the basis of our pilot study, we suspect that the supervisor rating of the innovative behaviour of the employee might be influenced by the inter-personal relationships between the employee and supervisor. Indeed, the supervisor rating of the employee's innovative behaviour could reflect a more general evaluation of the employee.

## 4. Non-response analysis

One of the main problems with survey research is the occurrence of non-response. If a respondent of a certain population refuses to provide the required information (completely or partially) we talk about non-response. Traditionally, distinction is made between two types of non-response: *unit non-response* and *item non-response* (Weisberg, 2009). We here discuss both types of non-response, their occurrence in the VIGOR study and how they were treated.

### 4.1 Unit non-response

In unit non-response, no information is collected from a certain respondent. The questionnaire remains uncompleted. Such non-response occurs principally because of the respondents' refusal to participate. Unit non-response can be troublesome if it significantly biases the results. This can occur if the non-response results in the non-inclusion of a certain group of respondents who are significantly different when it comes to certain variable means or relations between variables. We therefore checked the non-response that occurred in the VIGOR survey, the reasons behind this non-response, and controlled whether the non-response resulted in a significant deviation on certain variables.

Unit non-response can again be divided into three types of unit non-response that are more or less problematic in terms of data quality (Weisberg, 2009). The first category is unit non-response due to **non-contact**. Generally, this type of non-response is attributed to logistic and

practical limitation and is therefore seen as ignorable. A second type of non-response is a result of the respondent's **incapacity** to participate in the study. This incapacity can be the result of physical, mental or language barriers. Such non-response can create a bias if the incapacity of the respondent is linked to the subject of the survey and should not be simply ignored. The third type of non-response is related to **non-cooperation**. Here, the respondent refuses to cooperate. This type of non-response is non-ignorable if the reason for refusal to participate is (directly or indirectly) related to the subject of the survey.

In Table 1 the non-response totals are given for the VIGOR study, both in overall figures and split up for each industry. Incapacity and refusal are taken together as they are non-ignorable non-response to calculate an overall and industry specific response rate. Next to non-contact, a category of **non-population** is added as we observed that a considerable part of the contacted respondents did not work in the specified sector, were in retirement, or did not work in the last 2 months. From the table, we observe that the obtained net response rate was overall about 59%. Large differences between sectors are nevertheless observed. As such, the response rate in the non-profit attained about 69%, while in the sector of hotels and restaurants about half of the contacted respondents refused to cooperate. The same is true for the proportion of nonresponse due to incapacity, noncontacts or contacted respondents that were not a member of the population. In the hotels and restaurants sector these figures are considerably higher than in the other industries. In terms of gender and contractual status, the differences in net response rate are rather limited (men 60%, women 58%; blue-collar workers 58%, white-collar workers 59%).

**Table 1**      **Non response**

|                | Overall |    | Banking |    | Retail |    | Hotels & Restaurants |    | Chemical Industry |    | Non-profit |    |
|----------------|---------|----|---------|----|--------|----|----------------------|----|-------------------|----|------------|----|
|                | n       | %  | n       | %  | n      | %  | n                    | %  | n                 | %  | n          | %  |
| Response       | 927     | 59 | 181     | 58 | 186    | 53 | 163                  | 56 | 198               | 59 | 199        | 69 |
| Refusal        | 653     | 41 | 132     | 42 | 162    | 47 | 129                  | 44 | 140               | 41 | 90         | 31 |
| Incapacity     | 80      |    | 11      |    | 14     |    | 42                   |    | 3                 |    | 10         |    |
| Noncontact     | 293     |    | 38      |    | 59     |    | 117                  |    | 51                |    | 28         |    |
| Non-population | 348     |    | 39      |    | 72     |    | 134                  |    | 48                |    | 55         |    |

The overall response rate of 59% is average (de Leeuw & Hox, 1998). Several strategies were implemented to optimise or maximise the response rate. Following the advice of Church (1993), we gave all potential respondents an unconditional incentive. Unconditional to their participation, in the first contact via mail, all respondents received a small ruler with the VIGOR logo. This unconditional incentive was combined with a conditional incentive. When respondents agreed to participate and completed the survey, they could participate in a

lottery in which they could win a gift voucher of 100 Euros and a visit to Technopolis<sup>9</sup> with their family.

When respondents refused to participate, they were asked to provide a reason for their refusal. These reasons are given in Table 2. Most respondents indicated a lack of time or a general lack of interest as the reason for their refusal. About 28% also refused to give a reason for their refusal.

Two respondents also stopped the interview because the survey was too long. Our analysis on the length of the survey showed that, on average, the survey took 61 minutes. This is an average score meaning that a considerable number of surveys took longer than an hour.

**Table 2**      **Reasons for non-response**

|   | <b>n</b> | <b>%</b> |
|---|----------|----------|
| Lack of time                            | 210      | 32       |
| Not interested                          | 234      | 36       |
| No specified reason                     | 186      | 28       |
| The questionnaire was too long          | 2        | 0        |
| The respondent refused to open the door | 8        | 1        |
| Other reason                            | 13       | 2        |
| Total Non-response                      | 653      |          |

In a following phase, we looked at whether there is a significant difference between the planned sample and the realised sample. Thanks to our cooperation with the union organisations, we had information about the gender and the contractual status of our contacted respondents. In Table 3, we compare the group of respondents with the refusal group on these two variables. The chi-square tests indicate that there is no significant difference regarding gender or contractual status.

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<sup>9</sup> Technopolis is an interactive centre where children can make discoveries about science and technology through hands-on experiments.

**Table 3**      **Non-response analysis**

|              | Non-Response in % | Response in % | P-value |
|--------------|-------------------|---------------|---------|
| Gender       |                   |               | 0.429   |
| Man          | 40                | 60            |         |
| Women        | 42                | 58            |         |
| Status       |                   |               | 0.630   |
| Blue-collar  | 42                | 58            |         |
| White-collar | 41                | 59            |         |

## 4.2 Item non-response & data imputation

Item non-response refers to missing data on certain questions. Here the respondent agreed to participate in the study, but does not provide answers to all the questions. The major sources of item non-response are simple refusal to answer, the lack of knowledge from the respondent on the issue (the 'I don't know' answer category) or missing data due to mistakes on the part of the interviewer or respondents (Weisberg, 2009, p. 131).

Item non-response can be troublesome in the data analysis phase. In several multivariate statistical analyses, missing data on an item will lead to the elimination of the respondent from the analyses. A single missing piece of information from several respondents can therefore have a serious impact on the power (and validity) of the analysis. Therefore, several strategies were put into place in order to minimise item non-response:

1. the most important strategy used in the VIGOR survey was the decision to work with interviewers who read out the questions and completed the survey at the respondent's home. Contrary to mailed surveys, respondents are reluctant to abandon or skip questions when an interviewer is in front of them;
2. next, the option 'I don't know' was not provided for the respondents on every question. Only at the beginning did the interviewer say that the respondent could refuse to answer some questions, or state that they did not know the answer;
3. for difficult and/or sensitive questions different answer formats were given. The question in which we asked about the respondent's income was in this sense elaborate. The respondents were asked about their income, but could answer using net or brut wages, or on an hourly or monthly basis. If they refused to answer or indicated they did not know the answer, the respondents were given a card with different income categories with non-ordered codes using letters (not numbers). The respondents could then give the code letter corresponding to their income category. This last method was inspired on the European Working Conditions Survey (Eurofound, 2010b).

These strategies proved effective in the VIGOR study. Even for the question regarding the salary, which is generally conceived as being a difficult one to ask (Weisberg, 2009, p. 137), we attained a item-response of 89%. Unfortunately, we cannot discriminate between item non-response due to a refusal or a lack of knowledge.

Whether item non-response can be ignored or not depends on the nature of the missing data. Traditionally, distinction is made between different types of item non-response (missing data). The first type of missing data refers to data which is 'Missing Completely At Random (MCAR)', which is missing data that is in no way related to any other variable and is caused by a completely random process. This type of missing data is not likely to cause a large bias in the results and can be ignored. Missing data that is Missing At Random (MAR) refers to item non-response, which is related to a certain variable, but not to the variable on which the respondent refuses to answer. For example, one can imagine a situation in which some types of respondents with lower levels of trust in society refuse to give an indication of their income. Here, the refusal is not related to the income, but to a third variable. A third situation occurs when data is Missing Not At Random (MNAR). In this situation, the missing data is related to the value on the variable itself. MNAR can for example occur when respondents with a low income refuse more frequently to provide information on their income. This last type of item non-response cannot be simply ignored. For the MAR, it suffices to control for the relevant variables in the model, and MCAR can easily be ignored (Weisberg, 2009, p. 141).

In the VIGOR survey, we cannot determine the nature of the missing data with certainty. At the same time, the problem of missing data is limited to a number of variables that are often not included in further analyses. For the variables that are essential and are always included in analyses, the item non-response was generally limited to about 3%. Those missing were scattered over the items. If a statistical analysis were to perform a listwise deletion, the number of considered respondents could drop sharply. As a consequence, we opted for a **data imputation** strategy to cope with this problem. Given the limited scope of the problem of missing data in the VIGOR study, we opted for simple mean imputation in which the missing score is replaced by the population mean on that variable (Weisberg, 2009, p. 147).<sup>10</sup>

## 5. Representativeness of the sample

We further compared the realised sample with the broader population of employees from the studied sectors. Note that we do not here make a comparison with the population of

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<sup>10</sup> Values of items measuring the following concepts were imputed: company size, age, Innovative Work Behaviour, creativity, engagement, autonomy, learning opportunities, time pressure, complexity, emotional pressure, contact, innovation as a job requirement, involvement, vision on labour relations, labour conditions, job security and working times.

unionised employees from the sector (from with the sample was drawn), but to the broader population of employees. We compare the sample population with this broader population based on three variables: age, gender and employment status. The reference data concern population statistics as collected by Steunpunt WSE.

In Table 4 we provide the distribution on the three variables for the realised sample and for the population, for each industry under consideration. Using chi-square tests, we can assess whether there is a significant difference between the sample and the population. As such, we can conclude that in all industries, the older workers are overrepresented. Regarding the gender of the respondents, there are no significant differences between the population and the sample in the different industries. In relation to the employment status, we see significant divergences in the non-profit and in the chemical industry. In the first, the blue-collar workers are underrepresented in the sample, while they are overrepresented in the second.

**Table 4 Representativeness**

|                      |          | Age in % |          |        |                             | Gender in % |       |                             | Employment status in % |              |                             |
|----------------------|----------|----------|----------|--------|-----------------------------|-------------|-------|-----------------------------|------------------------|--------------|-----------------------------|
|                      |          | -25 j.   | 25-49 j. | 50+ j. | Chi <sup>2</sup><br>p-value | Men         | Women | Chi <sup>2</sup><br>p-value | Blue-collar            | White-collar | Chi <sup>2</sup><br>p-value |
| Banking              | Flanders | 3        | 63       | 34     | 0.017                       | 51          | 49    | 0.747                       | 0                      | 100          | 0.971                       |
|                      | VIGOR    | 2        | 54       | 44     |                             | 52          | 48    |                             | 0                      | 100          |                             |
| Retail               | Flanders | 19       | 63       | 18     | <0.01                       | 33          | 67    | 0.645                       | 17                     | 83           | 0.124                       |
|                      | VIGOR    | 6        | 71       | 23     |                             | 35          | 65    |                             | 16                     | 84           |                             |
| Hotels & Restaurants | Flanders | 25       | 57       | 19     | <0.01                       | 46          | 54    | 0.273                       | 88                     | 12           | 0.710                       |
|                      | VIGOR    | 14       | 69       | 17     |                             | 42          | 58    |                             | 100                    | 0            |                             |
| Chemical industry    | Flanders | 4        | 73       | 23     | <0.01                       | 70          | 30    | 0.402                       | 40                     | 60           | 0.059                       |
|                      | VIGOR    | 3        | 65       | 32     |                             | 73          | 27    |                             | 46                     | 54           |                             |
| Non-profit           | Flanders | 7        | 70       | 23     | <0.01                       | 41          | 59    | 0.167                       | 18                     | 82           | <0.01                       |
|                      | VIGOR    | 1        | 70       | 29     |                             | 36          | 64    |                             | 9                      | 92           |                             |

Data for Flanders are from 2011 (source: WSE). For the chi-square values regarding the employment status in the banking and hotels and restaurants sector, a value of 0.01 was imputed.

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## **ANNEX 3    VIGOR Questionnaire**



## Innovatief werk

### Mondelinge enquête naar innovatief werk bij Vlaamse werknemers

Contactpersoon: De Spiegelaere Stan

Promotoren: Van Gyes Guy  
Prof. dr. Van Hootegem Geert

Periode: december 2011 – maart 2012

Kredietnummer: ZL730264

Naam interviewer:

Katholieke Universiteit Leuven  
**HIVA - Onderzoeksinstituut voor Arbeid en Samenleving**  
Parkstraat 47 - bus 5300  
BE-3000 Leuven  
☎ +32 16 323333  
[www.hiva.be](http://www.hiva.be)



*Gelieve te controleren of u wel degelijk de bedoelde respondent gaat interviewen en niet iemand anders die op hetzelfde moment aanwezig is.  
Eventuele huisgenoten die aanwezig zijn, mogen in geen geval helpen antwoorden. Idealiter wordt de vragenlijst ook afgenomen zonder dat anderen in de buurt zijn. Maak dit ook duidelijk aan de respondent.*

*Interviewer: Noteer de juiste datum: ...../...../.....  
Noteer het juiste beginuur van het interview: ..... uur ..... min.*

## **Inleiding**

Goedendag, ik ben '**naam interviewer**' en werk als interviewer voor het HIVA – Onderzoeksinstituut voor Arbeid en Samenleving van de Katholieke Universiteit Leuven.

Enige tijd geleden, heeft u van ons reeds een brief ontvangen waarin de doelstellingen van dit onderzoek werden toegelicht. Samen met 1 199 andere personen in België, bent u op toevallige wijze geselecteerd om deel te nemen aan het onderzoek.

We peilen met deze vragenlijst naar allerlei aspecten die te maken hebben met uw arbeidssituatie. Zo stellen we vragen over onder andere arbeidstijd, arbeidscontract, beloning en inhoud van uw job. Door onze vragen te beantwoorden vanuit uw persoonlijke ervaring, levert u een zeer waardevolle bijdrage aan ons onderzoek over innovatief werk. Het is voor ons erg belangrijk dat u de vragen zo volledig en juist mogelijk beantwoordt.

Een belangrijk luik van deze vragenlijst gaat over uw loon. Wij weten dat dit soms een moeilijk thema is om over te praten. U mag steeds weigeren te antwoorden op vragen indien u dit wenst. Toch willen wij u vragen zoveel mogelijk vragen te beantwoorden. Wij benadrukken dat de antwoorden die u geeft strikt vertrouwelijk en anoniem worden behandeld, en samen met de antwoorden van andere personen verwerkt in tabellen. Achteraf kan niemand, buiten uzelf, weten wat u geantwoord heeft. Dit onderzoek is opgezet volgens een strikt wetenschappelijke onderzoeksmethode.

De afname van het interview zal ongeveer een uurtje duren. Tijdens het interview zal ik u regelmatig kaarten geven. Op deze kaarten staan de verschillende antwoordmogelijkheden op de vragen die ik stel.

Wanneer u tijdens het interview meer uitleg wenst of wanneer iets niet duidelijk is, dan zegt u dat maar. Dan licht ik dat graag toe.

Door deel te nemen aan deze vragenlijst maakt u bovendien kans op één van de vier Fnac-bonnen ter waarde van 100 euro en bijhorend bezoek aan Technopolis met het ganse gezin.

Indien dit voor u past, zou ik nu graag starten met de eerste vraag.

## A. Beroep

We gaan van start met enkele vragen over uw werk. Indien u meerdere jobs heeft, gelieve bij het antwoorden te denken aan uw belangrijkste job in termen van uren, de job waar u het meest werkt.

*Indien de respondent evenveel uren werkt in beide jobs, mag hij/zij de voor hem/haar belangrijkste baan kiezen.*

A1. Heeft u de laatste 6 maanden minstens 4 weken gewerkt?

1. Ja
2. Neen

9. Weigering (Enq.: niet voorlezen)

*Indien de respondent 'Neen' antwoordt, is deze vragenlijst niet van toepassing op hem. Gelieve te stoppen met de bevraging. Indien de respondent 'Ja' antwoordt, moet hij de rest van de vragenlijst invullen denkend aan zijn vorige baan.*

A2. Kan u ons een korte maar **nauwkeurige benaming** geven van het **beroep** dat u uitoefent?

*Met **beroep** doelen we op de specifieke naam van het werk van de respondent: bv. leerkracht, machineoperator, boekhouder, chauffeur, etc. Indien momenteel niet werkend, beroep uitgeoefend in laatste job.*

1. Benaming beroep: .....

9. Weigering (Enq.: niet voorlezen)

A3. In welk bedrijf of organisatie voert u dit beroep uit? Wat is de naam van dit bedrijf of deze organisatie? Deze informatie zal enkel gebruikt worden om openbare bedrijfsgegevens op te zoeken (zoals jaarrekeningen, etc.).

.....

9. Weigering (Enq.: niet voorlezen)

A4. Wat zijn de **voornaamste taken** die u moet uitvoeren?

*Indien de respondent niet direct kan antwoorden, gelieve het volgende voorbeeld te geven: "Bijvoorbeeld van een verkoopster zou dat kunnen zijn: de klanten bedienen, de kassa beheren, administratie, onderhoud, ...".*

.....  
.....

9. Weigering (Enq.: niet voorlezen)

- A5. De volgende uitspraken gaan over uw **formele taakomschrijving**. We bedoelen hiermee wat expliciet verwacht wordt in uw werk. Denk dus aan de taakomschrijving **waarvoor u aangesteld bent**. In hoeverre zijn volgende aspecten deel van uw formele taakomschrijving? U kan antwoorden met 'zeer veel', 'veel', 'eerder veel', 'tussenin', 'eerder weinig', 'weinig' of 'zeer weinig'. (Enq.: *Toon antwoordkaart A1*)

| (Omcirkel één antwoord per rij.)                            | Ze<br>er<br>veel | Veel | Eerder<br>veel | Tussenin | Eerder<br>weinig | Weinig | Ze<br>er<br>weinig | Weet<br>niet/<br>weigert |
|---|------------------|------|----------------|----------|------------------|--------|--------------------|--------------------------|
| 1. Zoeken naar nieuwe technologieën en technieken.          | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 2. Het introduceren van nieuwigheden binnen de organisatie. | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 3. Problemen op nieuwe manieren benaderen.                  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 4. Nieuwe ideeën aanbrengen.                                | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |

- A6. Hieronder volgen enkele uitspraken over de mate waarin u **betrokken wordt bij innovatie** in uw onderneming. Kan u aangeven in hoeverre u akkoord gaat met de volgende uitspraken? U kan antwoorden met 'helemaal eens', 'eens', 'eerder eens', 'tussenin', 'eerder oneens', 'oneens' en 'helemaal oneens'. (Enq.: *Toon antwoordkaart A2*)

|  | Helemaal<br>eens | Eens | Eerder<br>eens | Tussenin | Eerder<br>oneens | Oneens | Helemaal<br>oneens | Weet<br>niet/<br>weigert |
|--|------------------|------|----------------|----------|------------------|--------|--------------------|--------------------------|
| 1. In individuele gesprekken met mijn direct leidinggevende wordt vaak gesproken over nieuwe ideeën om het werk te verbeteren. | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 2. Er wordt mij <b>nooit</b> gevraagd of ik ideeën heb over hoe het bedrijf beter kan functioneren.                            | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 3. Als ik een idee heb over hoe het beter kan, weet ik <b>niet</b> aan wie ik het moet communiceren.                           | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 4. Als werknemer hoor ik <b>nooit</b> iets van op gang zijnde innovaties.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 5. De werkgever peilt vaak naar onze ideeën om dingen te veranderen in het bedrijf.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 6. Onze mening over hoe dingen beter kunnen verlopen, wordt nooit gevraagd.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |

- A7. Heeft u ooit meegewerkt aan een **vernieuingsproces** op uw werkplaats? Met een vernieuwingsproces bedoelen we alles wat te maken heeft met de voorbereiding, ontwikkeling of invoering van een vernieuwing op de werkplaats.

1. Ja
2. Neen → *ga naar vraag A10*
9. Weigering (Enq.: niet voorlezen)

- A8. Wat was het onderwerp van het vernieuwingsproces?

9. Weigering (Enq.: niet voorlezen)

A9. Wat was uw rol in dit vernieuwingsproces?

.....  
 .....

9. Weigering (Enq.: niet voorlezen)

A10. Werken er werknemers **onder uw leiding**?

1. Ja

2. Neen *ga naar vraag A12*

9. Weet niet/weigering (Enq.: niet voorlezen)

A11. Aan **hoeveel** werknemers geeft u leiding?

..... werknemers

999. Weigering (Enq.: niet voorlezen)

A12. Hoeveel **jaar** werkt u al in uw huidige bedrijf of organisatie?

Indien de respondent minder dan een jaar werkt in zijn huidige bedrijf of organisatie, gelieve '0' in te vullen.

..... jaar

99. Weet niet/weigering (Enq.: niet voorlezen)

A13. Hoe lang oefent u uw **beroep** al uit (binnen of buiten het huidige bedrijf of organisatie)?

..... jaar

99. Weet niet/weigering (Enq.: niet voorlezen)

A14. Graag hadden we geweten waarom u voor deze job gekozen heeft. Kan u ons aangeven in hoeverre u het eens bent met de volgende stellingen? De antwoordcategorieën gaan van helemaal eens tot helemaal oneens. (Enq.: Toon opnieuw antwoordkaart A2).

|   | Helemaal<br>eens | Eens | Eerder<br>eens | Tussenin | Eerder<br>oneens | Oneens | Helemaal<br>oneens | Weet<br>niet/<br>weigert |
|---|------------------|------|----------------|----------|------------------|--------|--------------------|--------------------------|
| 1. Ik heb deze job gekozen omdat ik er goed word voor betaald.                            | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 2. Ik heb deze job gekozen omdat ik veel vrijheid krijg.                                  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 3. Ik heb deze job gekozen omdat het interessant werk is.                                 | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 4. Ik heb deze job gekozen omdat ik er veel nieuwe dingen mag voorstellen en uitproberen. | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 5. Ik heb deze job gekozen omdat ik geen andere job vond.                                 | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 6. Ik heb deze job gekozen omwille van de voldoening die ik er uit krijg                  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 7. Ik heb deze job gekozen omdat hij mij is aangeboden.                                   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 8. Ik heb deze job gekozen omdat ze werkzekerheid biedt.                                  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |

## B. Arbeidsinhoud

In dit tweede deel zullen we peilen naar allerlei aspecten van uw job en de inhoud van uw taken.

- B1. Graag hadden we eerst geweten **hoe tevreden** u bent over de volgende aspecten van uw werk. Kan u ons op een schaal van 0 tot 10 aangeven in hoeverre u tevreden bent over deze aspecten, waarbij 0 staat voor 'zeer ontevreden' en 10 voor 'zeer tevreden'. (Enq.: Toon antwoordkaart B1)

|  | Zeet ontevreden |   |   |   |   |   |   |   |   |   | Zeet tevreden | N.v.t./weigert |
|--|-----------------|---|---|---|---|---|---|---|---|---|---------------|----------------|
| 1. Uw loon   | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 2. Uw werkzeekerheid                                       | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 3. Uw vakantieregeling                                     | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 4. De inhoud van uw job                                    | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 5. Uw directe chef   | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 6. Uw collega's  | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 7. Uw kansen op promotie                                   | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 8. De fysieke werkomstandigheden                           | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 9. De werkdruk   | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 10. Het uurrooster waarin u werkt                          | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 11. De mogelijkheden om bij te leren tijdens de werkuren   | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 12. De mate waarin u initiatief kan nemen tijdens het werk | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |
| 13. Uw job in het algemeen                                 | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10            | 99             |

- B2. Hoe vaak komen volgende kenmerken voor in uw werk? U kan antwoorden met 'altijd', 'erg vaak', 'regelmatig', 'af en toe', 'zelden' en 'nooit'. (Enq.: Toon antwoordkaart B2)

|   | Altijd | Erg vaak | Regelmatig | Af en toe | Zelden | Nooit | Weet niet/weigert |
|---|--------|----------|------------|-----------|--------|-------|-------------------|
| <b>Vraagt uw werk ...</b>                       |        |          |            |           |        |       |                   |
| 1. veel lichamelijke inspanningen               | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 2. veel geestelijke inspanningen                | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 3. direct contact met een klant                 | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| <b>Moet u werken ...</b>                        |        |          |            |           |        |       |                   |
| 4. in gevaarlijke of risicovolle omstandigheden | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 5. aan een hoog tempo                           | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 6. onder tijdsdruk                              | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 7. met een computer                             | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 8. aan een machine                              | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 9. aan een loket                                | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 10. van thuis uit                               | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 11. op verplaatsing                             | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |

- B3. Nu volgen een aantal stellingen over uw werk. Kan u voor elke stelling aangeven in hoeverre u het eens of oneens bent met de stelling. U kan antwoorden met 'helemaal eens' tot 'helemaal oneens'.  
(Enq.: Toon antwoordkaart B3)

|  | Helemaal<br>eens | Eens | Eerder<br>eens | Tussenin | Eerder<br>oneens | Oneens | Helemaal<br>oneens | Weet<br>niet/<br>weigert |
|--|------------------|------|----------------|----------|------------------|--------|--------------------|--------------------------|
| 1. Als dat nodig is, kan ik het tijdstip uitstellen of vervroegen waarop iets klaar moet zijn.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 2. Als ik dat nodig vind, kan ik mijn werk zelf onderbreken.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 3. Ik heb over het algemeen genoeg tijd om al mijn werk af te krijgen.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 4. Ik kan een eigen werkwijze kiezen.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 5. Ik kan gemakkelijk even weg van de plaats waar ik werk.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 6. Ik kan zelf beslissen hoe ik het werk doe.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 7. Ik kan zelf de volgorde van mijn werkzaamheden bepalen.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 8. Ik kan zelf het werktempo regelen.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 9. Ik moet in mijn werk veel dingen tegelijk in de gaten houden.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 10. Ik moet in mijn werk voortdurend intensief nadenken.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 11. Ik moet in mijn werk voortdurend mijn gedachten erbij houden.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 12. Ik moet me haasten op het werk.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 13. Ik moet onder tijdsdruk werken.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 14. Ik moet veel informatie gedurende lange tijd onthouden.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 15. Ik word in het werk geconfronteerd met zaken die mij persoonlijk raken.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 16. Ik zorg er zelf voor dat de machines of middelen waarmee ik werk in orde zijn.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 17. In mijn werk moet ik vaak omgaan met zeer emotionele situaties.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 18. Mijn werklust is zwaar vanuit emotioneel oogpunt.  | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 19. Mijn werkwijze wordt in grote mate voorgeschreven.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 20. Mijn werkzaamheden vormen eigenlijk nooit een 'afgerond geheel'.   | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |
| 21. Naast de uitvoering van het werk, doe ik zelf ook de voorbereiding van mijn werk (zoals materiaal verzamelen, plannen maken, ...). | 1                | 2    | 3              | 4        | 5                | 6      | 7                  | 9                        |



- B4. Nu volgen nog enkele vragen over uw werk. Kan u aangeven in hoeverre u het eens bent met de volgende stellingen? (Enq.: Toon opnieuw antwoordkaart B3)

|  | Helemaal eens | Eens | Eerder eens | Tussenin | Eerder oneens | Oneens | Helemaal oneens | Weet niet/weigert |
|--|---------------|------|-------------|----------|---------------|--------|-----------------|-------------------|
| 1. Door mijn werk te doen, leer ik nieuwe dingen.                                | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 2. Een collega kan het werk van mij overnemen als ik het niet gedaan krijg.      | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 3. Ik ben in het werk uitsluitend op mezelf aangewezen.                          | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 4. Ik heb de gelegenheid om mijn vakbekwaamheid te ontwikkelen.                  | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 5. Ik praat met collega's uit de eigen afdeling over het werk.                   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 6. Ik praat met mijn leidinggevende over het werk.                               | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 7. Mijn collega's helpen mij bij het afwerken van een opdracht als dat nodig is. | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 8. Mijn werk doet voldoende beroep op mijn vaardigheden en competenties.         | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 9. Mijn werk vereist creativiteit.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 10. Ik moet in mijn werk telkens hetzelfde doen.                                 | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 11. Mijn werk heeft voldoende afwisseling.                                       | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 12. Mijn werk is gevarieerd.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |

- B5. Mensen vinden verschillende zaken **belangrijk in een baan of job**. Welke aspecten vindt u belangrijk aan werken? U kan antwoorden met 'uiterst belangrijk', 'zeer belangrijk', 'tamelijk belangrijk', 'niet erg belangrijk' en 'helemaal niet belangrijk'. (Enq.: Toon antwoordkaart B4)

|  | Uiterst belangrijk | Zeer belangrijk | Tamelijk belangrijk | Niet erg belangrijk | Helemaal niet belangrijk | Weet niet/weigert |
|--|--------------------|-----------------|---------------------|---------------------|--------------------------|-------------------|
| 1. Goede werktijden                      | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 2. Een goed loon of salaris              | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 3. De kans om initiatief te tonen        | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 4. Een goede vakantieregeling            | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 5. Goede promotiekansen                  | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 6. Uw capaciteiten kunnen benutten       | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 7. Niet te veel spanning of stress       | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 8. De zekerheid niet ontslagen te worden | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 9. Interessant en boeiend werk           | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |

## C. Engagement op uw werk

- C1. De volgende vraag gaat over **creativiteit** in uw werk. Kan u bij de volgende uitspraken aangeven hoe vaak deze van toepassing zijn in uw werk? Wij benadrukken dat het hier **niet** gaat over **een evaluatie** van uw gedrag. Er zijn als het ware geen 'foute' antwoorden. Hoe vaak stelt u het volgende gedrag? (Enq.: Toon antwoordkaart C1)

|  | Altijd | Erg vaak | Regelmatig | Af en toe | Zelden | Nooit | Weet niet/weigert |
|--|--------|----------|------------|-----------|--------|-------|-------------------|
| 1. Aandacht besteden aan problemen die geen deel uitmaken van uw normaal takenpakket | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 2. Actief nadenken over mogelijke verbeteringen                                      | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 3. Uitzoeken van nieuwe werkmethodes, technieken of instrumenten                     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 4. Originele oplossingen voor problemen genereren                                    | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 5. Nieuwe manieren vinden om taken uit te voeren                                     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 6. Belangrijke leden binnen de organisatie enthousiast maken voor innovatieve ideeën | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 7. Mobiliseren van ondersteuning voor innovatieve ideeën                             | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 8. Verwerven van goedkeuring voor innovatieve ideeën                                 | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 9. Innovatieve ideeën in een systematische manier introduceren in de werkomgeving    | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 10. Innovatieve ideeën omzetten in bruikbare applicaties                             | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 11. Meewerken aan de invoering van nieuwe ideeën                                     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 12. Bezig zijn met het ontwikkelen van nieuwe producten/diensten                     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |

- C2. De volgende uitspraken hebben betrekking op hoe u uw werk **beleeft** en hoe u zich daarbij voelt. Kan u aangeven hoe vaak iedere uitspraak op u van toepassing is? U kan antwoorden met 'altijd', 'erg vaak', 'regelmatig', 'af en toe', 'zelden' of 'nooit'. (Enq.: Toon opnieuw antwoordkaart C1)

|  | Altijd | Erg vaak | Regelmatig | Af en toe | Zelden | Nooit | Weet niet/weigert |
|--|--------|----------|------------|-----------|--------|-------|-------------------|
| 1. Als ik 's morgens opsta, heb ik zin om naar het werk te gaan.     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 2. Als ik werk, voel ik me fit en sterk.                             | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 3. Ik ben enthousiast over mijn baan.                                | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 4. Ik ben trots op het werk dat ik doe.                              | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 5. Ik voel me opgebrand in mijn werk.                                | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 6. Mijn werk inspireert mij.   | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 7. Mijn werk vormt een zware belasting voor mij.                     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 8. Op mijn werk bruik ik van energie.                                | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 9. Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig. | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |

- C3. In welke mate vindt u uw **werk** combineerbaar met uw **persoonlijk en privé-leven**? Zijn die ...
1. zeer goed combineerbaar
  2. goed combineerbaar
  3. niet goed, maar ook niet slecht combineerbaar
  4. slecht combineerbaar
  5. zeer slecht combineerbaar
  9. *weet niet/weigering (Enq.: niet voorlezen)*
- C4. Hoe vaak denkt u eraan om te stoppen met deze baan? Is dat ...
1. altijd
  2. erg vaak
  3. regelmatig
  4. af en toe
  5. zelden
  6. nooit
  9. *weet niet/weigering (Enq.: niet voorlezen)*

## D. Arbeidscontract

In het volgende deel peilen we naar het arbeidscontract waarin u bent tewerkgesteld.

- D1. Hoe zou u uw **statuut** omschrijven wanneer u enkel rekening houdt met het werk dat u doet? Bent u ...
1. arbeid(st)er
  2. bediende
  3. kaderlid
  4. andere, nl.: .....
  9. *weigering (Enq.: niet voorlezen)*
- D2. Heeft u een contract van **onbepaalde duur**?
1. Ja ➔ *ga naar vraag D7*
  2. Neen
  9. *Weet niet/weigering (Enq.: niet voorlezen)*
- D3. Welk type contract heeft u dan? Is dat een ...

*Indien de respondent aangeeft nog in zijn **proefperiode** te zijn, dan moet u doorvragen voor welk type contract hij in proefperiode is. U duidt dan aan 'andere' en schrijft proefperiode **en** u duidt het type contract aan waarvoor hij in proef is.*

1. contract van bepaalde duur
  2. contract van bepaald werk
  3. vervangingscontract
  4. tijdelijk contract via een uitzendkantoor of detacheringbureau
  5. leercontract of andere opleidingsvorm
  8. *Andere (Enq.: niet voorlezen), nl.: .....*
  9. *Weet niet/weigering (Enq.: niet voorlezen)*
- D4. Wat is de **exacte duur** van het contract in maanden?
1. .... maanden
  2. Geen exacte duur (bepaald werk, vervanging)
  9. *Weet niet/weigering (Enq.: niet voorlezen)*

- D5. Hieronder volgen enkele stellingen over **tijdelijk werk**. Let op, we bedoelen hierbij niet 'deeltijds werk', maar wel het feit dat u geen contract van onbepaalde duur heeft. Gelieve aan te geven in hoeverre u akkoord gaat met deze stellingen. De antwoorden gaan van 'helemaal eens' tot 'helemaal oneens'. (Enq.: Toon antwoordkaart D1)

|  | Helemaal eens | Eens | Eerder eens | Tussenin | Eerder oneens | Oneens | Helemaal oneens | Weet niet/weigert |
|--|---------------|------|-------------|----------|---------------|--------|-----------------|-------------------|
| 1. Ik werk op tijdelijke basis omdat ik van de afwisseling van tijdelijke jobs hou.                        | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 2. Ik werk op tijdelijke basis omdat ik geen vast werk kan vinden.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 3. Ik werk op tijdelijke basis omdat een vaste job niet te combineren valt met mijn persoonlijke situatie. | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 4. Ik werk op tijdelijke basis omdat ik zo ervaring kan opdoen.  | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 5. Ik werk op tijdelijke basis, maar ik zou liever een vaste job hebben.                                   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |

- D6. Hoe groot is volgens u de kans dat u een **vast contract zal aangeboden krijgen** in het bedrijf of de organisatie waar u nu werkt? Is die kans ...

1. erg groot
  2. eerder groot
  3. niet groot, maar ook niet klein
  4. eerder klein
  5. erg klein of onbestaande
  9. weet niet/weigering (Enq.: niet voorlezen)
- ➡ ga naar vraag D8

- D7. Hoe groot is volgens u de kans dat u uw **vast contract zal verliezen** in het bedrijf of de organisatie waar u nu werkt? Is die kans ...

1. erg groot
2. eerder groot
3. niet groot, maar ook niet klein
4. eerder klein
5. erg klein of onbestaande
9. weet niet/weigering (Enq.: niet voorlezen)

- D8. Hoe groot is volgens u de kans dat u in de komende 12 maanden minstens vier opeenvolgende weken **werkloos zal zijn** en op zoek naar werk? Is die kans ...

1. erg groot
2. eerder groot
3. niet groot, maar ook niet klein
4. eerder klein
5. erg klein of onbestaande
9. weet niet/weigering (Enq.: niet voorlezen)

D9. Indien u uw job zou verliezen in de volgende 12 maanden, denkt u dat u dan **gemakkelijk een job zal vinden** die minstens even goed is als de huidige? Is die kans ...

1. erg groot
2. eerder groot
3. niet groot, maar ook niet klein
4. eerder klein
5. erg klein of onbestaande
9. weet niet/weigering (Enq.: niet voorlezen)

D10. Bent u in de laatste drie jaar langer dan **1 maand werkloos geweest**?

Onder 'werkloos' verstaan we alle respondenten die geen werk hadden en op zoek waren naar werk. Voor respondenten die eerder bijvoorbeeld student waren, duidt u 'neen' aan.

1. Ja
2. Neen
9. Weet niet/weigering (Enq.: niet voorlezen)

## E. Arbeidstijd

E1. Werkt u voltijds of deeltijds?

1. Voltijds
2. Deeltijds
9. Weet niet/weigering (Enq.: niet voorlezen)

E2. Werkt u in een systeem van ploegenarbeid?

Met 'ploegensysteem' bedoelen we een systeem waarbij verschillende groepen werknemers elkaar collectief afwisselen. De ploeg wisselt om een bepaalde periode van werktijd (ochtend, namiddag, nacht, ...).

1. Ja *→ ga naar vraag E4*
2. Neen

E3. Heeft u een **onregelmatig uurrooster**? Dit is een uurrooster dat vaak verandert of met grote onderbrekingen tijdens de dag.

Met 'onderbrekingen tijdens de dag' bedoelen we gesplitste werkuren ('s morgens een aantal uur en 's avonds een aantal). We verwijzen dus niet naar ploegenarbeid.

1. Ja
2. Neen
9. Weet niet/weigering (Enq.: niet voorlezen)

E4. Door wie wordt uw uurrooster bepaald? Is dat ...

1. door uzelf
2. door uw werkgever
3. in onderling overleg
9. weet niet/weigering (Enq.: niet voorlezen)

E5. Hoeveel uren werkt u in een **normale werkweek** volgens uw **contract**?

*Hier moet de respondent zijn 'normale', effectief gepresteerde uren per week meedelen. Indien er lichte afwijkingen zijn van week tot week, moet de respondent denken aan de meest voorkomende situatie. Enkel als de arbeidstijd sterk verschilt van week tot week moet de antwoordcategorie '99' ingevuld worden.*

1. .... uren ..... minuten

99. Ik heb geen normale werkweek

999. Weet niet/weigering (Enq.: niet voorlezen)

E6. Hoeveel uren werkt u normaal per week in uw huidige job? Reken hierbij zowel betaalde als onbetaalde **overuren**, maar **geen middagpauzes** en **tijd om van en naar het werk** te gaan. We peilen dus naar de uren dat u effectief werkt tijdens een week.

1. .... uren ..... minuten

99. Ik heb geen normale werkweek

999. Weet niet/weigering (Enq.: niet voorlezen)

E7. **Als u meer uren werkt** dan in uw contract staat, heeft u dan **recht op** ...

*Deze vraag peilt naar het officiële 'recht' van de werknemer op compensaties voor overuren. Of hij deze in de praktijk gebruikt of niet, doet hier niet terzake.*

1. de extra uren uitbetaald, met een toeslag
2. de extra uren uitbetaald
3. compensatie-uren (compensatie in verlof)
4. de keuze tussen uitbetaling of compensatie-uren
5. niets

9. weet niet/weigering (Enq.: niet voorlezen)

E8. Indien u meer uren werkt, maakt u dan ook **gebruik** van dit recht? Doet u dat ...

1. altijd
2. vaak
3. soms
4. zelden
5. nooit

9. weet niet/weigering (Enq.: niet voorlezen)

E9. Welke van de volgende uitspraken beschrijft het best hoe uw **werktijden** geregeld worden? Met werktijden bedoelen we hier wanneer u start en stopt met werken, en dus niet hoeveel uren u werkt per week of maand. (Enq.: Toon antwoordkaart E1)

1. Begin- en einduren worden door mijn baas beslist en ik kan ze niet zomaar veranderen.
2. Ik kan zelf mijn begin- en einduren bepalen, binnen bepaalde grenzen.
3. Ik kan volledig vrij beslissen wanneer ik mijn werk begin en eindig.

9. Weet niet/weigering (Enq.: niet voorlezen)

E10. Moet u in uw job regelmatig of altijd:

|   | Ja | Neen | Weet niet/<br>weigert |
|---|----|------|-----------------------|
| 1. 's <b>nachts</b> werken (tussen 22u 's avonds en 6u 's morgens)? | 1  | 2    | 9                     |
| 2. in het <b>weekend</b> werken?                                    | 1  | 2    | 9                     |

## F. Beloning

Hieronder volgen enkele vragen in verband met het loon dat u krijgt voor uw werk. Deze vragen zijn relatief moeilijk, neem gerust de tijd om over uw antwoorden na te denken. Wij herinneren u eraan dat deze vragenlijst volledig anoniem behandeld wordt.

- F1. Welke van de volgende voorwaarden zijn belangrijk voor de bepaling van **uw loon** in uw bedrijf? U kan de antwoordcategorieën zien op deze kaart. (Enq.: Toon antwoordkaart F1)

|   | Uiterst belangrijk | Zeër belangrijk | Tamelijk belangrijk | Niet erg belangrijk | Helemaal niet belangrijk | Weet niet/weigert |
|---|--------------------|-----------------|---------------------|---------------------|--------------------------|-------------------|
| 1. Diploma                              | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 2. Aantal dienstjaren (anciënniteit)    | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 3. Geleverde prestaties                 | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 4. Ervaring in de job                   | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 5. Verantwoordelijkheden die u heeft    | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 6. De onregelmatige uren waarop u werkt | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |
| 7. Kennis over talen e.d.               | 1                  | 2               | 3                   | 4                   | 5                        | 9                 |

- F2. Evalueer uw salaris tegenover dat van andere werknemers met **dezelfde job en dezelfde ervaring** die in hetzelfde bedrijf werken. Is uw loon ...

1. veel hoger
2. een beetje hoger
3. hetzelfde
4. een beetje lager
5. veel lager
9. weet niet/weigering (Enq.: niet voorlezen)

- F3. Evalueer uw salaris tegenover dat van andere werknemers met **dezelfde job en dezelfde ervaring** die in een ander, gelijkaardig bedrijf werken. Is uw loon ...

1. veel hoger
2. een beetje hoger
3. hetzelfde
4. een beetje lager
5. veel lager
9. weet niet/weigering (Enq.: niet voorlezen)

- F4. Is uw loon gebaseerd op een officieel barema en/of loonschaal?

1. Ja
2. Neen
9. Weet niet/weigering (Enq.: niet voorlezen)

- F5. Wordt uw loon automatisch geïndexeerd?

1. Ja
2. Neen
9. Weet niet/weigering (Enq.: niet voorlezen)

F6. Is uw **nettomaandloon** sinds 1 januari 2011, zonder rekening te houden met indexeringen:

*Het maakt niet uit voor welke reden het loon is gestegen. Zolang er geen rekening wordt gehouden met de indexering. Als iemand een hoger loon krijgt door een verandering van job, telt dit dus ook.*

1. gedaald
2. gelijk gebleven *☞ ga naar vraag F9*
3. gestegen
9. *weet niet/weigering (Enq.: niet voorlezen) ☞ ga naar vraag F9*

F7. Hoeveel is uw loon ongeveer gedaald/gestegen sinds 1 januari 2011? U kan antwoorden in euro, netto of bruto, per uur of per maand.

*Hier wordt enkel naar het 'loon' gekeken, niet naar eventuele andere voordelen (bv. telefoon, onkostenvergoeding, bedrijfswagen, etc.).*

1. € ..... per uur, netto
2. € ..... per uur, bruto
3. € ..... per maand, netto
4. € ..... per maand, bruto
9. *Weet niet/weigering (Enq.: niet voorlezen)*

F8. Kan u ons kort zeggen waarom uw loon is gestegen/gedaald (bv. promotie, demotie, opslag voor iedereen, goede resultaten, anciënniteit, ...)?

.....

.....

9. *Weet niet/weigering (Enq.: niet voorlezen)*

F9. Hoe vaak wordt uw loon uitbetaald? Is dat ...

1. per dag
2. per week
3. per 2 weken
4. per maand
5. een andere periode, nl.: .....
9. *weet niet/weigering (Enq.: niet voorlezen)*

F10. Krijgt u de volgende voordelen en welk bedrag krijgt u hiervoor gemiddeld?

|   | Neen | Ja      | Weet niet/<br>weigert |
|---|------|---------|-----------------------|
| 1. Een eindejaarspremie of dertiende maand  | 1    | € ..... | 999                   |
| 2. Een netto-forfaitaire onkostenvergoeding | 1    | € ..... | 999                   |



F11. Welke van de volgende voordelen krijgt u, of waar heeft u recht op als deel van uw beloning in uw bedrijf of organisatie?

|   | Ja | Neen | Weet niet/<br>weigert |
|---|----|------|-----------------------|
| 1. Maaltijden, maaltijdcheques of vergoeding voor maaltijden in/buiten de organisatie | 1  | 2    | 9                     |
| 2. Pensioenplan of groepsverzekering in het kader van pensioen                        | 1  | 2    | 9                     |
| 3. Extra ziekteverzekering of hospitalisatieverzekering                               | 1  | 2    | 9                     |
| 4. Geboortepremie of huwelijkspremie  | 1  | 2    | 9                     |
| 5. Kinderopvang of bijdrage in kinderopvang   | 1  | 2    | 9                     |
| 6. Vergoeding voor woon-werkverplaatsingen  | 1  | 2    | 9                     |
| 7. Vergoeding voor verplaatsingen in dienstopdrachten                                 | 1  | 2    | 9                     |
| 8. Bedrijfsvoertuig   | 1  | 2    | 9                     |
| 9. Tankkaart  | 1  | 2    | 9                     |
| 10. Mobiele telefoon  | 1  | 2    | 9                     |
| 11. Laptop of pc voor thuisgebruik  | 1  | 2    | 9                     |
| 12. Internetabonnement thuis  | 1  | 2    | 9                     |
| 13. Ecocheques  | 1  | 2    | 9                     |
| 14. Innovatiepremie   | 1  | 2    | 9                     |

F12. Kan u ons zeggen hoeveel u ongeveer gemiddeld verdient, zonder rekening te houden met de hierboven genoemde voordelen? U kan antwoorden per uur of per maand; netto of bruto.

1. € ..... per uur, netto ➡ *ga naar vraag F14*
2. € ..... per uur, bruto ➡ *ga naar vraag F14*
3. € ..... per maand, netto ➡ *ga naar vraag F14*
4. € ..... per maand, bruto ➡ *ga naar vraag F14*
9. *Weet niet/weigering (Enq: niet voorlezen)*

F13. Zou u ons toch kunnen aanduiden in welke categorie uw **nettomaandloon** valt? U kan mij gewoon de letter die overeenkomt met uw categorie melden. (Enq.: Toon antwoordkaart F2)

| CODE | Maandelijks <u>nettoloon</u>           | CODE | Maandelijks <u>nettoloon</u> | CODE | Maandelijks <u>nettoloon</u>           |
|------|--|------|------------------------------|------|--|
| D    | Minder dan € 250                       | P    | € 1 500 – € 1 749            | C    | € 3 000 – € 3 249                      |
| B    | € 250 – 499                            | A    | € 1 750 – € 1 999            | L    | € 3 250 – € 3 499                      |
| I    | € 500 – € 749                          | F    | € 2 000 – € 2 249            | N    | € 3 500 – € 3 749                      |
| O    | € 750 – € 999                          | E    | € 2 250 – € 2 499            | R    | € 3 750 – € 3 999                      |
| T    | € 1 000 – € 1 249                      | Q    | € 2 500 – € 2 749            | S    | € 4 000 en meer                        |
| G    | € 1 250 – € 1 499                      | H    | € 2 750 – € 2 999            |      |  |
| J    | <i>Weet niet (Enq: niet voorlezen)</i> | K    |                              |      | <i>Weigering (Enq: niet voorlezen)</i> |

- F14. De volgende stellingen gaan over uw **visie op beloning in uw bedrijf**. In hoeverre gaat u akkoord met de volgende stellingen? De antwoorden gaan van 'helemaal eens' tot 'helemaal oneens'.  
(Enq.: Toon antwoordkaart F3)

|   | Helemaal eens | Eens | Eerder eens | Tussenin | Eerder oneens | Oneens | Helemaal oneens | Weet niet/weigert |
|---|---------------|------|-------------|----------|---------------|--------|-----------------|-------------------|
| 1. Het loon in mijn bedrijf ligt lager dan in vergelijkbare bedrijven.                            | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 2. Ik ben eerlijk beloond voor de inspanning die ik in mijn werk steek.                           | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 3. Ik ben eerlijk beloond voor de verantwoordelijkheid die ik opneem.                             | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 4. Salarisverhogingen in dit bedrijf zijn gebaseerd op bekwaamheid en hoe goed men het werk doet. | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 5. Mijn bedrijf betaalt goede lonen.  | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 6. Ik word rechtvaardig betaald in vergelijking met anderen op mijn afdeling.                     | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 7. Ik word voldoende betaald voor het werk dat ik lever.  | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |

- F15. Is een deel van uw loon **afhankelijk van uw individuele prestaties of verdiensten**? Bijvoorbeeld in de vorm van een stukloon, een commissie, een individuele bonus of een premie, fooien, ...?

*Het gaat hier niet over loonpremies die niet afhankelijk zijn van prestaties van de werknemer, zoals bijvoorbeeld verschillende RVA- of VDAB-premies (activa win-win, loopbaanonderbreking, overstappremie, ...).*

- Ja
- Neen → *ga naar vraag F18*
- Weet niet/weigering (Enq.: niet voorlezen)

- F16. Hoe wordt deze individuele beloning **vastgesteld**? Wat is het **belang** van de volgende aspecten daarbij? Zijn deze 'zeer belangrijk', 'belangrijk', 'tussenin', 'onbelangrijk' of 'zeer onbelangrijk'?  
(Enq.: Toon antwoordkaart F4)

|   | Zeet belangrijk | Belangrijk | Tussenin | Onbelangrijk | Zeet onbelangrijk | Weet niet/weigert |
|---|-----------------|------------|----------|--------------|-------------------|-------------------|
| 1. Een evaluatie door uw leidinggevende van uw resultaten               | 1               | 2          | 3        | 4            | 5                 | 9                 |
| 2. Een evaluatie door uw leidinggevende van uw gedrag in de onderneming | 1               | 2          | 3        | 4            | 5                 | 9                 |
| 3. Het halen van vooropgestelde doelstellingen                          | 1               | 2          | 3        | 4            | 5                 | 9                 |
| 4. Van de tevredenheid van uw klanten                                   | 1               | 2          | 3        | 4            | 5                 | 9                 |
| 5. Andere, nl.: .....   | 1               | 2          | 3        | 4            | 5                 | 9                 |

F17. In hoeverre hebben uw **creativiteit** op het werk of **uw innovatieve ideeën** een **invloed** op uw individuele **prestatiebeloning**? Heeft dit ...

1. een zeer grote invloed
2. een grote invloed
3. een beperkte invloed
4. een zeer kleine invloed
5. geen invloed
9. *weet niet/weigering (Enq.: niet voorlezen)*

F18. Gelieve aan te geven welke van volgende systemen van variabele beloning **op u van toepassing zijn**.

|  | Ja | Neen | Weet niet/<br>weigert |
|--|----|------|-----------------------|
| 1. Is een deel van uw loon afhankelijk van de prestaties van het team of de afdeling waarin u werkt, bijvoorbeeld een groepspremie?                          | 1  | 2    | 9                     |
| 2. Is er een soort van winstdeling in uw organisatie; een systeem waarbij een deel van de winst wordt uitgereikt aan werknemers zoals u?                     | 1  | 2    | 9                     |
| 3. Participeert u financieel in uw organisatie, bijvoorbeeld via aandelen?   | 1  | 2    | 9                     |
| 4. Krijgt u soms, occasioneel samen met anderen een bonus of een premie? Bijvoorbeeld naar aanleiding van een verbetering van de resultaten van het bedrijf. | 1  | 2    | 9                     |

Indien de respondent op vraag **F15** en op alle vragen van **F18** 'neen' of 'weet niet' heeft geantwoord ➡ ga dan naar vraag F20

F19. Van wat hangt uw **variabele beloning** volgens u **hoofdzakelijk af**? Is dat van ...

*Met 'variabele beloning' bedoelen we hier alle soorten beloningen die niet vast staan in de tijd. Dus zowel de individuele beloning van vraag F15 als de beloningen van vraag F18.*

1. uw eigen prestaties
2. prestaties van u en uw directe collega's (mijn team, mijn afdeling)
3. prestaties van uw bedrijf of organisatie
4. de stemming van uw werkgever
5. andere, nl.: .....
9. *weet niet/weigering (Enq.: niet voorlezen)*

- F20. Creatieve ideeën en innovaties kunnen op verschillende manieren beloond worden in bedrijven of organisaties. **Hoe vaak gebruikt uw bedrijf of organisatie de volgende technieken om innovatieve werknemers te belonen?** Doen ze dit 'altijd', 'erg vaak', 'regelmatig', 'af en toe', 'zelden' of 'nooit'? (Enq.: Toon antwoordkaart F5)

Indien de term 'innovatiepremie' of 'patenten en octrooien' niet gekend is, gelieve 'weet niet' aan te kruisen.

|  | Altijd | Erg vaak | Regelmatig | Af en toe | Zelden | Nooit | Weet niet/weigert |
|--|--------|----------|------------|-----------|--------|-------|-------------------|
| 1. Met een financiële bonus  | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 2. Met een promotie  | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 3. Met een loonsverhoging  | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 4. In natura (een niet financieel extraatje)                                     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 5. Met het geven van extra tijd voor de ontwikkeling van innovaties              | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 6. Door het gebruik van de 'innovatiepremie'                                     | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 7. Door het toekennen van intellectuele eigendomsrechten (patenten en octrooien) | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 8. Door de uitreiking van een prijs  | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |
| 9. Door het geven van extra vormingen  | 1      | 2        | 3          | 4         | 5      | 6     | 9                 |

- F21. Zijn er nog andere manieren waarmee uw bedrijf of organisatie **creatieve of innovatieve werknemers belooft**?

1. Ja, nl.: .....
2. Neen
9. Weet niet/weigering (Enq.: niet voorlezen)

- F22. Heeft u zelf al één of meerdere van de zojuist opgesomde beloningen ontvangen omdat u creatief of innovatief was op het werk?

Gelieve enkel het nummer van de beloning van F20 te noteren of noteer '21' indien het over de beloning van F21 gaat.

1. Ja, welke? .....
2. Neen
9. Weet niet/weigering (Enq.: niet voorlezen)

## G. Promotie en carrièremogelijkheden

G1. Kan u aanduiden welke van volgende **doorgroeimogelijkheden** er voor u bestaan in uw bedrijf?

|  | Ja | Neen | Weet niet/<br>weigert |
|--|----|------|-----------------------|
| 1. Op te klimmen naar een hoger hiërarchisch niveau (verticale promotie) | 1  | 2    | 9                     |
| 2. Van werk te veranderen op hetzelfde hiërarchisch niveau               | 1  | 2    | 9                     |
| 3. De huidige functie met extra taken uit te breiden                     | 1  | 2    | 9                     |
| 4. De huidige functie met extra bevoegdheden uit te breiden              | 1  | 2    | 9                     |

*Indien de respondent 'neen' geantwoord heeft op alle vragen in G1 → ga dan naar topic H.*

G2. In hoeverre zijn volgende aspecten belangrijk om een **promotie** te krijgen in uw functie? U kan antwoorden met 'uiterst belangrijk', 'zeer belangrijk', 'tamelijk belangrijk', 'niet erg belangrijk' en 'helemaal niet belangrijk'. (Enq.: Toon antwoordkaart G1)

|  | Uiterst<br>belangrijk | Zeer<br>belangrijk | Tamelijk<br>belangrijk | Niet erg<br>belangrijk | Helemaal<br>niet<br>belangrijk | Weet niet/<br>weigert |
|--|-----------------------|--------------------|------------------------|------------------------|--------------------------------|-----------------------|
| 1. Leeftijd  | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 2. Aantal dienstjaren  | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 3. Goede werkprestaties                                      | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 4. Inspanningen op het vlak van opleiding                    | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 5. Capaciteiten voor toekomstige job                         | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 6. Een bepaald diploma                                       | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 7. Het kunnen uitvoeren van veel verschillende soorten taken | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 8. Familiale verwantschap                                    | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 9. Creatief en innovatief zijn                               | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 10. Goede, informele relaties met de leidinggevende          | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |
| 10. Andere: .....  | 1                     | 2                  | 3                      | 4                      | 5                              | 9                     |

## H. Training en opleiding

H1. Heeft u het gevoel dat u **genoeg vaardigheden** heeft om uw taken correct en goed uit te voeren? Heeft u ...

1. zeker genoeg vaardigheden
2. genoeg vaardigheden
3. net genoeg vaardigheden
4. te weinig vaardigheden
5. veel te weinig vaardigheden
9. weet niet/weigering (Enq.: niet voorlezen)

- H2. Heeft u het gevoel dat veel van uw vaardigheden **niet gebruikt** worden in uw werk?
1. Ja
  2. Neen
  9. *Weet niet/weigering (Enq.: niet voorlezen)*
- H3. Heeft u in de laatste 12 maanden een **training of vorming** gevolgd die **betaald en voorzien** was **door uw huidige werkgever**? Was dat ...
1. meer dan één opleiding
  2. één opleiding
  3. geen opleiding ➔ *ga naar vraag H6*
  9. *Weet niet/weigering (Enq.: niet voorlezen)*
- H4. Was die opleiding of één van die opleidingen gericht op het **veranderen** van bepaalde aspecten van uw werk of van de organisatie? Of was **creativiteit of innovatie** een onderwerp?
1. Ja
  2. Neen ➔ *ga naar vraag H6*
  9. *Weet niet/weigering (Enq.: niet voorlezen)*
- H5. Wat was het thema van de opleiding of de opleidingen die met innovatie of creativiteit te maken hadden? Omschrijf het kort.
- .....
- .....
9. *Weet niet/weigering (Enq.: niet voorlezen)*
- H6. Heeft u in de laatste 12 maanden een training of vorming gevolgd die **u zelf betaald heeft**?
1. Ja
  2. Neen
  9. *Weet niet/weigering (Enq.: niet voorlezen)*

## I. Innovatief werkgedrag

- I1. De volgende vragen gaan over uw gedrag in de onderneming. Deze vragen zal ik niet voorlezen. Ik geef u zo dadelijk een blad waarop deze vragen staan. Neem gerust uw tijd om de vragen te lezen en te antwoorden. U mag me natuurlijk steeds vragen stellen over de inhoud van de vragen. Ik herinner u eraan dat het hier duidelijk niet gaat over een evaluatie van uw gedrag. Alle antwoorden zijn correct. (Enq.: Geef de vragenlijst – laatste blad)

## J. Het beleid in uw organisatie

Nu volgen een heel aantal vragen over het beleid in uw bedrijf of organisatie. Deze vragen zijn vaak niet gemakkelijk te beantwoorden. Probeer ze toch zo goed mogelijk te beantwoorden.

- J1. Kan u ons zeggen welke van de volgende **organisatorische maatregelen** toegepast worden op u?

|  | Ja | Neen | Weet niet/<br>weigert |
|--|----|------|-----------------------|
| 1. Zit u in een systeem van jobrotatie, waarin u regelmatig moet wisselen van takenpakket met een collega?           | 1  | 2    | 9                     |
| 2. Is er een <b>vaste</b> werkwijze voorzien om suggesties te doen ter verbetering van het werk?                     | 1  | 2    | 9                     |
| 3. Krijgt u op <b>systematische wijze</b> informatie over uw werkzaamheden zodat u kan bijsturen?                    | 1  | 2    | 9                     |
| 4. Zit u in een <b>werkgroepje</b> dat kwaliteitsproblemen in de eigen werkplek analyseert en probeert op te lossen? | 1  | 2    | 9                     |

- J2. Hoe vaak heeft u een **formeel en gepland beoordelingsgesprek/evaluatiegesprek** met uw direct leidinggevende? Tijdens een beoordelingsgesprek wordt een beoordeling uitgesproken over het werkgedrag en staat het **verleden** centraal. We benadrukken dat het hier gaat om een formeel en gepland gesprek. Het gaat hier dus niet over een informeel gesprek waarbij gesproken wordt over uw prestaties. Is dat ...

1. meerdere keren per jaar
2. één keer per jaar
3. één keer per twee jaar
4. andere frequentie, nl.: .....
5. nooit ➡ **ga naar vraag J4**
9. weet niet/weigering (Enq.: niet voorlezen) ➡ **ga naar vraag J4**

- J3. Is uw creativiteit en de mate waarin u innoveert of vernieuwingen invoert een onderdeel van dit beoordelingsgesprek? Gebeurt dit ...

1. altijd
2. meestal
3. soms
4. zelden
5. nooit
9. weet niet/weigering (Enq.: niet voorlezen)

- J4. Hoe vaak heeft u **een formeel en gepland functioneringsgesprek** met uw direct leidinggevende? Tijdens een functioneringsgesprek worden werkproblemen besproken en staat de **toekomst** centraal. We benadrukken opnieuw dat het hier gaat om een formeel en gepland gesprek. Het gaat hier dus niet over een informeel gesprek waarbij gesproken wordt over uw functioneren. Is dat ...

1. meerdere keren per jaar
2. één keer per jaar
3. één keer per twee jaar
4. andere frequentie, nl.: .....
5. nooit ➡ **ga naar vraag J6**
6. beoordelings/evaluatiegesprek valt samen met functioneringsgesprek ➡ **ga naar vraag J6**
9. weet niet/weigering (Enq.: niet voorlezen) ➡ **ga naar vraag J6**

- J5. Is uw creativiteit en de mate waarin u innoveert of vernieuwingen invoert een onderdeel van dit functioneringsgesprek? Gebeurt dit ...
1. altijd
  2. meestal
  3. soms
  4. zelden
  5. nooit
  9. *weet niet/weigering (Enq.: niet voorlezen)*
- J6. Is er, **voor u**, in uw bedrijf of organisatie een **georganiseerd overleg** met collega's waar diverse dimensies van het dagelijkse werk worden besproken (bijvoorbeeld werkoverleg)? We benadrukken het 'georganiseerd' karakter van het overleg. Informele bijeenkomsten waar snel een aantal dingen besproken worden, vallen hier niet onder.
1. Ja
  2. Neen *☞ ga naar vraag J8*
  9. *Weet niet/weigering (Enq.: niet voorlezen) ☞ ga naar vraag J8*
- J7. Worden tijdens dit **werkoverleg** nieuwe ideeën besproken?
1. Altijd
  2. Meestal
  3. Soms
  4. Zelden
  5. Nooit
  9. *Weet niet/weigering (Enq.: niet voorlezen)*
- J8. In het uitvoeren van uw job, moet u soms samenwerken in permanente of tijdelijke teams? Met een team bedoelen we een werkvorm waarin u voor bepaalde taken samenwerkt met anderen en onderling afhankelijk bent van elkaar.
1. Ja
  2. Neen *☞ ga naar vraag J12*
  9. *Weet niet/weigering (Enq.: niet voorlezen) ☞ ga naar vraag J12*

Denk bij het invullen van de volgende vragen aan het team waarin u het meest moet werken.

- J9. Heeft dit team een leider?
1. Ja
  2. Neen *☞ ga naar vraag J11*
  9. *Weet niet/weigering (Enq.: niet voorlezen) ☞ ga naar vraag J11*
- J10. Kunnen de teamleden de selectie van de leider beïnvloeden?
1. Ja
  2. Neen
  9. *Weet niet/weigering (Enq.: niet voorlezen)*
- J11. Hebben de teamleden een invloed op de doelstellingen van het team?
1. Ja
  2. Neen
  9. *Weet niet/weigering (Enq.: niet voorlezen)*



- J12. Nu volgen een aantal vragen over het **werkklimaat** in uw bedrijf of organisatie. Kan u aangeven in hoeverre u het eens bent met de volgende uitspraken? (Enq.: Toon antwoordkaart J1).

| In mijn bedrijf of organisatie ...                                       | Helemaal eens | Eens | Eerder eens | Tussenin | Eerder oneens | Oneens | Helemaal oneens | Weet niet/weigert |
|--|---------------|------|-------------|----------|---------------|--------|-----------------|-------------------|
| 1. gebeuren veranderingen in de werking langzaam                         | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 2. heeft iedereen een welomschreven taak                                 | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 3. heeft men iets over voor elkaar                                       | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 4. helpt men elkaar bij moeilijkheden                                    | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 5. is alles goed georganiseerd   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 6. is er een goede groepssfeer   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 7. kan men duidelijk laten blijken dat men het ergens niet mee eens is   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 8. kan men klachten vrij naar voor brengen                               | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 9. mag er gereageerd worden op beslissingen van een hoger bestuursniveau | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 10. motiveert de leiding de mensen                                       | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 11. wordt klare en degelijke informatie doorgegeven                      | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |

- J13. Nu volgen enkele vragen over het beleid van de directie. Kan u ons aangeven in hoeverre u het eens bent met de volgende stellingen? (Enq.: Toon opnieuw antwoordkaart J1).

|   | Helemaal eens | Eens | Eerder eens | Tussenin | Eerder oneens | Oneens | Helemaal oneens | Weet niet/weigert |
|---|---------------|------|-------------|----------|---------------|--------|-----------------|-------------------|
| 1. De directie houdt iedereen goed op de hoogte van <b>voorgestelde</b> veranderingen.                | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 2. De directie geeft iedereen de kans om opmerkingen te geven over <b>voorgestelde</b> veranderingen. | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 3. De directie reageert op suggesties van werknemers.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 4. De directie pakt werkproblemen aan die u of anderen kunnen hebben.                                 | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |

- J14. In de volgende uitspraken gaan we na hoe de relatie is tussen de **directie en de werknemers** in uw bedrijf of organisatie. Kan u per uitspraak antwoorden in welke mate u het eens of oneens bent met de uitspraak? (Enq.: Toon opnieuw antwoordkaart J1).

|  | Helemaal eens | Eens | Eerder eens | Tussenin | Eerder oneens | Oneens | Helemaal oneens | Weet niet/weigert |
|--|---------------|------|-------------|----------|---------------|--------|-----------------|-------------------|
| 1. Er doen zich vaak conflicten voor tussen de directie en de werknemers.                  | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 2. De relatie tussen de directie en werknemers kan best omschreven worden als vriendelijk. | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |
| 3. De directie stelt zich dominant op ten opzichte van de werknemers.                      | 1             | 2    | 3           | 4        | 5             | 6      | 7               | 9                 |

|  | Helemaal eens | Eens | Eerder eens | Tussentijds | Eerder oneens | Oneens | Helemaal oneens | Weet niet/weigert |
|--|---------------|------|-------------|-------------|---------------|--------|-----------------|-------------------|
| 4. De werknemers hebben een sterke persoonlijke band met de werkgever/directie.    | 1             | 2    | 3           | 4           | 5             | 6      | 7               | 9                 |
| 5. De directie voert samen met de werknemers een aantal taken op de werkvloer uit. | 1             | 2    | 3           | 4           | 5             | 6      | 7               | 9                 |
| 6. De werknemers hebben het gevoel door de directie uitgebuit te worden.           | 1             | 2    | 3           | 4           | 5             | 6      | 7               | 9                 |

## K. Uw bedrijfseenheid

Nu volgen enkele vragen over de vestiging van het bedrijf of organisatie waarin u werkt. We bedoelen hiermee de lokale vestiging van uw bedrijf. We hebben het dus bijvoorbeeld over 'Carrefour Leuven' en niet over 'Carrefour'.

K1. Wat is het postnummer van de gemeente waar de vestiging van uw bedrijf of organisatie is gevestigd?

Postnummer: .....

9. Weet niet/weigering (Enq.: niet voorlezen)

K2. **Hoeveel werknemers** telt de vestiging waar u werkt? Een ruwe schatting van het aantal werknemers is voldoende.

..... werknemers

9. Weet niet/weigering (Enq.: niet voorlezen)

K3. Werken er in uw vestiging vooral arbeiders of bedienden? Zijn er ...

1. vooral arbeiders
2. vooral bedienden
3. ongeveer evenveel arbeiders als bedienden

9. weet niet/weigering (Enq.: niet voorlezen)

De volgende vragen gaan over uw gehele bedrijf (bv. 'Carrefour' en niet 'Carrefour Leuven').

K4. Welke structuur heeft het bedrijf of de organisatie waar u werkt? Is dat ...

|  | Ja | Neen | Weet niet/weigert |
|--|----|------|-------------------|
| 1. Een bedrijf met meerdere vestigingen                | 1  | 2    | 9                 |
| 2. Een bedrijf grotendeels in familiale handen         | 1  | 2    | 9                 |
| 3. Een bedrijf grotendeels in buitenlandse handen      | 1  | 2    | 9                 |
| 4. Een bedrijfseenheid die al meer dan 10 jaar bestaat | 1  | 2    | 9                 |

K5. Wat is de **hoofddactiviteit** van uw bedrijf of organisatie? Omschrijf het kort.

.....

9. Weet niet/weigering (Enq.: niet voorlezen)

K6. Welk type klanten heeft uw bedrijf of organisatie hoofdzakelijk? Zijn dat ...

1. voornamelijk particuliere consumenten, individuele klanten
2. voornamelijk bedrijven
3. voornamelijk overheidsdiensten
4. voornamelijk zelfstandigen
9. weet niet/weigering (Enq.: niet voorlezen)

K7. Bedrijven en organisaties proberen zich in de kijker te plaatsen bij hun klanten en proberen beter te werken dan hun concurrenten. Wat is het belang van de volgende aspecten daarbij voor uw bedrijf of organisatie? (Enq.: Toon antwoordkaart K1)

|  | Uiterst<br>belangrijk | Zeër<br>belangrijk | Tamelijk<br>belangrijk | Niet erg<br>belangrijk | Helemaal<br>niet<br>belangrijk | Weet<br>niet/ n.v.t. |
|--|-----------------------|--------------------|------------------------|------------------------|--------------------------------|----------------------|
| 1. Kwaliteit van de producten of diensten                                    | 1                     | 2                  | 3                      | 4                      | 5                              | 9                    |
| 2. Prijs van de producten of diensten  | 1                     | 2                  | 3                      | 4                      | 5                              | 9                    |
| 3. Herkenbaarheid van het product of dienst, merkbekendheid                  | 1                     | 2                  | 3                      | 4                      | 5                              | 9                    |
| 4. Nieuwigheden, innovatieve producten of diensten                           | 1                     | 2                  | 3                      | 4                      | 5                              | 9                    |
| 5. Levertermijnen, de snelheid waarin producten of diensten geleverd worden  | 1                     | 2                  | 3                      | 4                      | 5                              | 9                    |
| 6. Maatwerk op vraag van de klant  | 1                     | 2                  | 3                      | 4                      | 5                              | 9                    |
| 7. Het aanbod van producten of diensten die nergens anders verkrijgbaar zijn | 1                     | 2                  | 3                      | 4                      | 5                              | 9                    |

K8. Hoe zou u de economische situatie van uw bedrijf of organisatie beschrijven? Is die ...

1. zeer goed
2. redelijk goed
3. niet goed, niet slecht
4. redelijk slecht
5. zeer slecht
9. weet niet/weigering (Enq.: niet voorlezen)

K9. In de volgende vraag peilen we naar **veranderingen** in uw organisatie. Kan u ons zeggen in hoeverre de volgende aspecten veranderd zijn in de laatste **2 jaar**? U kan antwoorden met 'sterk verhoogd', 'enigszins verhoogd', 'stabiel gebleven', 'enigszins verlaagd' of 'sterk verlaagd'. (Enq.: Toon antwoordkaart K2)

Indien de respondent nog geen 2 jaar in het bedrijf werkt, gelieve 'niet van toepassing' (n.v.t.) aan te duiden. Ook indien het bedrijf nog geen twee jaar bestaat, gelieve n.v.t. aan te duiden.

|  | Sterk<br>verhoogd | Enigszins<br>verhoogd | Stabiel<br>gebleven | Enigszins<br>verlaagd | Sterk<br>verlaagd | Weet<br>niet/n.v.t. |
|--|-------------------|-----------------------|---------------------|-----------------------|-------------------|---------------------|
| 1. De kwaliteit van de producten of diensten | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |
| 2. De productiekosten                        | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |
| 3. Het aantal regels in het bedrijf          | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |
| 4. De hoeveelheid tijdverlies                | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |
| 5. Het aantal fouten                         | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |
| 6. Het aanbod van producten en diensten      | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |
| 7. Het aantal klachten van klanten           | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |
| 8. De hoeveelheid personeel                  | 1                 | 2                     | 3                   | 4                     | 5                 | 9                   |

K10. Is er in uw bedrijf of organisatie een werknemersvertegenwoordiging actief? Bijvoorbeeld in een Comité voor Preventie en Bescherming op het Werk, in een Ondernemingsraad of in een syndicale delegatie?

1. Ja
2. Neen *☞ ga naar vraag K12*
9. Weet niet/weigering (Enq.: niet voorlezen) *☞ ga naar vraag K12*

K11. Hoe groot is volgens u de invloed van deze werknemersvertegenwoordiging in uw bedrijf of organisatie? Is die invloed ...

1. zeer groot
2. eerder groot
3. niet groot en niet klein
4. eerder klein
5. zeer klein
9. weet niet/weigering (Enq.: niet voorlezen)

K12. Bent u lid van een vakbond?

1. Ja
2. Neen *☞ ga naar topic 'L'*
9. Weet niet/weigering (Enq.: niet voorlezen) *☞ ga naar topic 'L'*

K13. In welke zin bent u betrokken bij de werknemersvertegenwoordiging in uw bedrijf? U kan de volgende items beantwoorden met 'ja' of 'neen'.

|  | Ja | Neen | Weet niet/<br>weigert |
|--|----|------|-----------------------|
| 1. U bent actief in de werknemersvertegenwoordiging van uw bedrijf.  | 1  | 2    | 9                     |
| 2. U was kandidaat bij de sociale verkiezingen.  | 1  | 2    | 9                     |
| 3. U heeft een effectief mandaat in het Comité voor Preventie en Bescherming op het Werk of de Ondernemingsraad. (Enq.: 'plaatsvervanger is geen effectief mandaat') | 1  | 2    | 9                     |
| 4. U bent syndicaal afgevaardigde in uw bedrijf.   | 1  | 2    | 9                     |

## L. Persoonlijke achtergrond

Nu volgen nog een aantal korte vragen over uzelf.

L1. De eerste vraag gaat over de mate waarin u, als privé-persoon, aangetrokken bent tot nieuwe, innovatieve of verbeterde producten en diensten. Bent u daartoe ...

1. erg aangetrokken
2. behoorlijk aangetrokken
3. neutraal
4. niet echt aangetrokken
5. helemaal niet aangetrokken
9. weet niet/weigering (Enq.: niet voorlezen)

L2. In vergelijking met uw vrienden en familie, koopt u sneller of minder snel nieuwe producten of diensten? Doet u dat ....

1. veel sneller
2. een beetje sneller
3. even snel
4. trager
5. veel trager
9. weet niet/weigering (Enq.: niet voorlezen)

L3. Wat is uw **leeftijd**?

..... jaar

9. Weigering (Enq.: niet voorlezen)

L4. Wat is uw huidige gezinssituatie?

Onder 'kinderen' bedoelen we zowel kinderen die permanent inwonen bij de respondent, als kinderen die niet permanent inwonen, zoals met bv. co-ouderschap.

1. Ik woon samen met mijn partner
2. Ik woon samen met mijn partner en kind(eren)
3. Ik woon zonder partner, met kind(eren) ➡ ga naar vraag 'L6'
4. Ik woon alleen ➡ ga naar vraag 'L6'
5. Ik woon bij mijn ouders ➡ ga naar vraag 'L6'
6. Andere, nl.: ..... ➡ ga naar vraag 'L6'
9. Weigering (Enq.: niet voorlezen) ➡ ga naar vraag 'L6'

L5. Heeft uw partner een vast inkomen?

1. Ja
2. Neen
9. Weigering (Enq.: niet voorlezen)

L6. Wat is het hoogste niveau van diploma dat u behaald heeft? (Enq.: Toon antwoordkaart L1)

1. Geen diploma
2. Lager onderwijs
3. Lager algemeen secundair onderwijs
4. Lager technisch secundair onderwijs
5. Lager kunstsecundair onderwijs
6. Lager beroepssecundair onderwijs
7. Hoger algemeen secundair onderwijs
8. Hoger technisch secundair onderwijs
9. Hoger kunstsecundair onderwijs
10. Hoger beroepssecundair onderwijs
11. Hoger, niet-universitair onderwijs korte type
12. Hoger, niet-universitair onderwijs lange type
13. Universitair onderwijs
14. Postuniversitair onderwijs
15. Buitenlands diploma: omschrijf: .....
16. Ander diploma: omschrijf: .....
99. Weet niet/weigering(Enq.: niet voorlezen)

- L7. Wat is de titel van uw hoogst behaalde diploma? Wat was de richting of het vakgebied waarin u afstudeerde?

.....

9. *Weet niet/weigering (Enq.: niet voorlezen)*

- L8. Ziezo, de vragenlijst is ten einde. We willen u graag bedanken voor uw medewerking aan dit wetenschappelijk onderzoek. Heeft u enige opmerkingen over de vragenlijst of over de thema's die aan bod kwamen?

.....

.....

.....

*Noteer het juiste einduur van het interview: ..... uur ..... min.*

*Overhandig na het invullen van het tijdstip het formulier voor deelname aan de **tombola** aan de respondent en vraag dit te vervolledigen en terug te overhandigen aan u.*

## Annex 1 / Innovatief werk

1. Hieronder staan een aantal uitspraken. Kan u aangeven in hoeverre u dit gedrag stelt? Let op: het gaat hier **niet** over een evaluatie van uw gedrag, gelieve dus eerlijk te antwoorden.

|   | Helemaal eens | Eens | Eerder eens | Tussenin | Eerder oneens | Oneens | Helemaal oneens |
|---|---------------|------|-------------|----------|---------------|--------|-----------------|
| 1. Ik ben goed in het <b>aanpassen</b> van bestaande ideeën en werkmethoden zodat het werk beter verloopt.                  | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 2. Ik besteed vooral aandacht aan het oplossen van <b>kleine problemen</b> die het werk vlotter laten verlopen.             | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 3. Ik besteed vooral aandacht aan het oplossen van <b>grote, structurele problemen</b> op het werk.                         | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 4. Ik gebruik <b>al bestaande ideeën</b> om mijn werk goed uit te voeren.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 5. Ik ben <b>zeer</b> origineel in de uitvoering van mijn werk.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 6. Ik suggereer <b>radicaal nieuwe</b> manieren van werken of nieuwe producten.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 7. Ik ben een bron van <b>uitzonderlijk</b> creatieve en vernieuwende ideeën.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 8. Ik <b>verander</b> gemakkelijk van werkmethode afhankelijk van de noden.   | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 9. De ideeën die ik heb, gaan vooral over het <b>verfijnen</b> van de bestaande productie, de producten of de diensten.     | 1             | 2    | 3           | 4        | 5             | 6      | 7               |
| 10. De ideeën die ik heb, gaan vooral over het <b>compleet veranderen</b> van de productieprocessen, producten of diensten. | 1             | 2    | 3           | 4        | 5             | 6      | 7               |

2. Als u innovatief tewerk gaat, waarom doet u dit dan? Hoe belangrijk zijn de volgende redenen daarvoor?

| Ik probeer innovatief te zijn op mijn werk ...         | Uiterst belangrijk | Zeër belangrijk | Tamelijk belangrijk | Niet erg belangrijk | Helemaal niet belangrijk |
|--|--------------------|-----------------|---------------------|---------------------|--------------------------|
| 1. om de werkdruk te verlichten                        | 1                  | 2               | 3                   | 4                   | 5                        |
| 2. om de organisatie vooruit te helpen                 | 1                  | 2               | 3                   | 4                   | 5                        |
| 3. omdat ik het leuk vind nieuwe dingen te ontwikkelen | 1                  | 2               | 3                   | 4                   | 5                        |
| 4. omdat het werk zo leuker wordt                      | 1                  | 2               | 3                   | 4                   | 5                        |
| 5. omdat ik op die manier betere promotiekansen krijg  | 1                  | 2               | 3                   | 4                   | 5                        |
| 6. omdat ik daardoor meer kan verdienen                | 1                  | 2               | 3                   | 4                   | 5                        |
| 7. omdat het van mij gevraagd wordt                    | 1                  | 2               | 3                   | 4                   | 5                        |

3. Wat is voor u de belangrijkste en de minst belangrijke reden om innovatief te zijn op uw werk? Geef het cijfer van de antwoordcategorieën onder vraag 2.

De belangrijkste: .....

De minst belangrijke: .....





## ANNEX 4 Publications

### IT (Articles in internationally reviewed academic journals)

De Spiegelaere, S., Van Gyes, G., De Witte, H., Niesen, W., Van Hootegem, G. (In Press). On the relation of job insecurity, job autonomy, Innovative Work Behaviour and the mediating effect of work engagement. *Creativity and Innovation Management* (most recent IF: 0.86).

De Spiegelaere, S., Van Gyes, G., Van Hootegem, G. (2014). Innovatief Werkgedrag als concept: definiëring en oriëntering. *Gedrag en Organisatie*, 27 (2), 139-156. (most recent IF: 0.94).

De Spiegelaere, S., Van Gyes, G., Van Hootegem, G. (In Press). Labour flexibility and innovation, complementary or concurrent strategies? A review of the literature. *Economic and Industrial Democracy* (most recent IF: 0.67).

De Spiegelaere, S., Van Gyes, G., Van Hootegem, G. (2012). Mainstreaming Innovation in Europe. Findings on Employee Innovation and Workplace Learning from Belgium. *Lifelong Learning in Europe (LLinE)*, 17 (4), 1-20.

De Spiegelaere, S., Van Gyes, G., Van Hootegem, G. (2012). Job Design and Innovative Work Behavior: One Size Does Not Fit All Types of Employees. *Journal of Entrepreneurship, Management and Innovation*, 8 (4), 5-20.

### AT (Articles in other academic journals)

De Spiegelaere, S., Van Gyes, G. (2013). Wat werkt van Het Nieuwe Werken?. *Over.werk. Tijdschrift van het Steunpunt WSE*, 23 (3), 66-72.

De Spiegelaere, S. (2013). Turkije: Moderniteit tegen traditionalisme? Voorbij het cliché. *MO\* (Mondiaal Magazine)*.

De Spiegelaere, S. (2013). Het dubbele loondiscours onder de loep. *Samenleving en Politiek*, 20 (2), 22-27.

De Spiegelaere, S. (2013). Gezwinde grijsaards en jong geweld. *HR Magazine*, 18 (206), 58-60.

Van Gyes, G., De Spiegelaere, S., Vandekerckhove, S. (2012). De indexdiscussie naar een ander niveau. Opiniestuk. *MO\* (Mondiaal Magazine)*.

## **AT-p (Articles in other professionally oriented journals)**

De Spiegelaere, S., Van Gyes, G. (2013). Lonen om van te dromen: een reeks kanttekeningen. *De Gids op Maatschappelijk Gebied*, 104 (8), 6-13.

Van Gyes, G., Vandekerckhove, S., De Spiegelaere, S. (2013). De verkeerde gebeten hond: cao-lonen in Europa. *De Gids op Maatschappelijk Gebied*, 104 (3), 30-38.

## **IHb (Article in academic book, internationally recognised scientific publisher)**

De Spiegelaere, S., Van Gyes, G., Benders, J., Van Hootehem, G. (2013). Nieuw, maar daarom niet altijd beter. Over de relatie tussen Het Nieuwe Werken en het innovatief gedrag van werknemers. In: Kok R., Lekkerkerk H., Vermeulen P. (Eds.), *Versterking van innovatie. Liber Amicorum voor Ben Dankbaar*, Chapt. 27. Den Haag: Boom Lemma, 249-261.

De Spiegelaere, S., Van Gyes, G. (2012). Employee-Driven Innovation and Industrial Relations. In: Høyrup S., Bonnafous-Boucher M., Hasse C., Lotz M., Møller K. (Eds.), *Employee-Driven Innovation: A New Approach*, Chapt. 12. Hampshire (UK): Palgrave Macmillan, 230-245.

## **AHb (Article in other academic book)**

De Spiegelaere, S., Van Gyes, G. (2014). Jobonzekerheid: stimulator of obstakel voor innoverende werknemers?. In: *Innovativiteit van individuen in organisaties in Vlaanderen: Beleidsrelevante conclusies uit het VIGOR-project*, Chapt. 7. Leuven: HIVA-KU Leuven, 31-33.

De Spiegelaere, S., Van Gyes, G. (2014). Individueel of collectief belonen: wanneer gaan geld en innovatie (niet) samen?. In: *Innovativiteit van individuen in organisaties in Vlaanderen. Beleidsrelevante conclusies uit het VIGOR-project*, Chapt. 8. Leuven: HIVA-KU Leuven, 35-37.

## **RE (Review)**

De Spiegelaere, S. (2014). Bespreking van het boek 'Iedereen Baas! Over samenwerken met vier generaties' (Van Uffelen, S.). *Samenleving en Politiek* (5), 93-95.

De Spiegelaere, S. (2013). De vakbond als de voorvechter van de transitie: wens of realiteit? Bespreking van het boek 'Trade Unions in the Green Economy: Working for the Environment' (Räthzel, N. & Uzzell, D.). *Oikos: Forum voor Sociaal-Ecologische Verandering* (2), 89-91.

De Spiegelaere, S. (2012). Bespreking van het boek 'The Precariat' (Standing). De opkomst van een nieuwe, gevaarlijke sociale klasse. *Tijdschrift voor Arbeidsvraagstukken*, 8 (4), 518-519.

De Spiegelaere, S. (2011). Bespreking van 'Handboek HRM: competentie management en arbeidsrecht'. *Gedrag en Organisatie*, 24 (4), 465-467.

## **IR (Internal report)**

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## **ER (external reports: reports by order of - or published by - an external organisation)**

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## English summary

In this dissertation the relation between the employment relationship and the Innovative Work Behaviour (IWB) is treated. As employees contribute significantly to innovation companies, research tries to identify the triggers and obstacles for employee innovative behaviour. Few studies here focused on the effect of the employment relationship. In this dissertation the focus lies on the relation of job insecurity, performance-related pay and time flexibility with the innovative behaviour of employees.

Through a series of six articles we discuss the Innovative Work Behaviour concept, map its relevance and study the relation with the employment relationship. In doing so, we take into account the effects of job design variables such as job autonomy. This dissertation reveals that the studied employment relationship variables stand in a weak and sometimes complex relation with Innovative Work Behaviour. For job insecurity the relations is negative and significant, but limited in scope in comparison with, e.g., the relation of job autonomy with IWB. For performance-related pay (PRP) we distinguish between individual and collective PRP. No main effects are identified for individual PRP but individual PRP significantly interacted with job autonomy in their relation with IWB. Collective PRP is positively related with IWB and the effect is inflated in certain organisation contexts. For flexi-time, the observed bivariate relation with IWB was completely accounted for by the job method autonomy variable.

We conclude that the employment relationship has complex, uncertain and relatively weak relations with the innovative behaviour of employees. Job autonomy, on the other hand, is clearly positively related to IWB. These conclusions signal that changing employment relationship variables is no guarantee for beneficial employee behaviour. In order to change employee behaviour, one must focus on the job content and structure.

## Nederlandse samenvatting

In dit doctoraat staat de relatie tussen de werkgelegenheidsverhouding en het innovatief werkgedrag (IWG) van werknemers centraal. Gezien werknemers een belangrijke bijdrage leveren aan innovatie in ondernemingen, proberen verschillende studies de stimuli en obstakels van innovatief werkgedrag in kaart te brengen. Zelden wordt daarbij gekeken naar de werkgelegenheidsverhouding. In dit doctoraat doen we dit wel door te focussen op de relatie van jobonzekerheid, resultaatsgebonden beloning en flexi-tijd met het innovatief gedrag van werknemers.

Doorheen zes opzichzelfstaande artikelen belichten we het concept innovatief werkgedrag, zijn relevantie en de relatie met de werkgelegenheidsverhoudingen. We bestuderen parallel het effect van de *job design* door variabelen als job autonomie mee te nemen in de analyse. In de voorgestelde studies vinden we dat de bestudeerde variabelen van de werkgelegenheidsverhouding een zwakke en soms complexe relatie hebben met innovatief werkgedrag. Voor jobonzekerheid is de relatie significant en negatief, maar eerder zwak. Zeker in vergelijking met de sterk positieve relatie tussen job autonomie en IWG. Resultaatsgebonden beloning wordt opgesplitst in een individuele en collectieve variant. Individuele resultaatsgebonden beloning staat enkel in verband met IWG in een interactie met autonomie op het werk. Collectieve flexibele beloning staat in een positieve relatie met IWG en die relatie wordt versterkt (of verzwakt) door de organisatiecontext. Voor flexi-tijd verdwijnt de geobserveerde bivariate relatie met IWG volledig eens we controleren voor autonomie over de werkmethode.

We concluderen dat de werkgelegenheidsverhouding in een complexe, onzekere en eerder zwakke relatie staat met het innovatief gedrag van werknemers. Job autonomie daarentegen is duidelijk positief gerelateerd met IWG. Deze conclusie duidt erop dat veranderingen in de werkgelegenheidsverhouding geen garantie zijn voor beter werknemersgedrag. Om werknemers innovatief te laten werken moet de focus liggen op de job inhoud en zijn structuur.

## Résumé français

Dans cette thèse, le lien entre la relation d'emploi et le comportement innovateur au travail (CIT) est traitée. La littérature scientifique tente d'identifier les déclencheurs et les obstacles pour le CIT vu que les employés contribuent de manière significative aux innovations. Par contre, les études traitent rarement de l'effet sur la relation d'emploi. Dans cette thèse, l'accent est mis sur l'effet de la relation d'emploi sur le CIT avec un focus sur l'insécurité d'emploi, la rémunération liée à la performance et la flexibilité des horaires (flexitime).

Dans une série de six articles, nous conceptualisons le concept du CIT, nous identifions sa pertinence et étudions sa relation avec la relation d'emploi en prenant en compte les effets du *job design* tel que l'autonomie au travail. Cette dissertation montre que les variables de la relation d'emploi étudiées se relient de manière faible et parfois complexe avec le CIT. L'effet de l'insécurité d'emploi est négatif et significatif, mais de portée limitée; surtout comparé à l'effet de l'autonomie sur le CIT. Pour la rémunération liée à la performance (RLP) nous distinguons la RLP individuelle et collective. Pour ce qui est la RLP individuelle, des effets principaux n'ont pas été identifiés. Néanmoins, la RLP individuelle affecte la relation de l'autonomie avec le CIT en réduisant l'effet positif de l'autonomie au travail sur le CIT. La RLP collective est positivement corrélée avec le CIT et l'effet est augmenté dans certains contextes organisationnels. En ce qui concerne le flexitime la relation bivariate observée avec le CIT s'explique complètement par l'autonomie sur la méthode de travail.

Nous concluons que la relation d'emploi a des relations incertaines, relativement faibles et complexes avec le comportement innovateur au travail. L'autonomie au travail, est par contre clairement et positivement liée au CIT. Ces conclusions signalent que la modification de la relation d'emploi ne garantit pas de comportements bénéfiques des employés. Afin de changer le comportement des employés, il faut se concentrer sur le contenu du travail et sa structure.

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